

73(2):205-216. 1989. FR 34(2)

[Dep. Zool., Univ. Wash., Seattle 98195] *Oncorhynchus kisutch* and *O. tshawytscha*.

89-001783 Plisetskaya, Erika M.; Mark A. Sheridan and Thomas P. Monimsen. METABOLIC CHANGES IN COHO AND CHINOOK SALMON RESULTING FROM ACUTE INSUFFICIENCY OF PANCREATIC HORMONES. *J. Exp. Zool.* 249(2):159-164. 1989. FR 34(2)

[Dep. Zool., Univ. Wash., Seattle 98195] *Oncorhynchus kisutch* and *O. tshawytscha*.

89-001784 Pontet, A.; J. M. Danger; P. Dubourg; G. Pelletier; H. Vaudry; A. Calas and O. Kah. DISTRIBUTION AND CHARACTERIZATION OF NEUROPEPTIDE Y-LIKE IMMUNOREACTIVITY IN THE BRAIN AND PITUITARY OF THE GOLDFISH. *Cell Tissue Res.* 255(3):529-538. 1989. FR 34(2)

[Kah: Lab. Physiol. Cell. & Comp., Parc Valrose, F-06034 Nice Cedex, France] *Carassius auratus*.

89-001785 Poston, Hugh A. RESPONSE OF RAINBOW TROUT TO SOURCE AND LEVEL OF SUPPLEMENTAL DIETARY METHIONINE. *Comp. Biochem. Physiol. A Comp. Physiol.* 83(4):739-744. 1986. FR 34(2)

[Tunison Lab. Fish Nutr., U. S. Fish & Wildl. Serv., 28 Gracie Rd., Cortland, NY 13045]

89-001786 Prijono, A.; Tridjoko; I. Nyoman Adismara Giri, A. Poernomo; W. E. Vansteren, C. Lim and T. Dauley. NATURAL SPAWNING AND LARVAL REARING OF MILKFISH IN CAPTIVITY IN INDONESIA. *Aquaculture* 74(1/2):127-130. 1988. FR 34(2)

[Res. Stn. Coastal Aquacult., Gondol, Bali, Indonesia] *Chanos chanos*.

89-001787 Pusey, B. J. AESTIVATION IN THE TELEOST FISH *LEPIDOGALAXIA SALAMANDROIDES* (MEES). *Comp. Biochem. Physiol. A Comp. Physiol.* 92(1):137-138. 1989. FR 34(2)

[Cent. Catchment & In-stream Res., Griffith Univ., Nathan, Qld. 4111, Australia]

89-001788 Quintio, G. F.; H. Takahashi and A. Goto. ANNUAL CHANGES IN TESTICULAR ACTIVITY OF THE RIVER SCULPIN, *COTTUS HANGIENSIS* MORI, WITH EMPHASIS ON THE OCCURRENCE OF ABERRANT SPERMATIDS DURING SPERMATOGENESIS. *J. Fish Biol.* 33(6):871-878. 1988. FR 34(2)

[Dep. Biol., Fac. Fish., Hokkaido Univ., Hakodate 041, Japan]

89-001789 Radtke, Richard L. STRONTIUM-CALCIUM CONCENTRATION RATIOS IN FISH OTOLITHS AS ENVIRONMENTAL INDICATORS. *Comp. Biochem. Physiol. A Comp. Physiol.* 92(2):189-193. 1989. FR 34(2)

[Oceanic Biol., Inst. Geophysics, Univ. Hawaii, Honolulu 96822] *Fundulus heteroclitus*

89-001790 Rand-Weaver, Mariann; Bernt T. Walther and Hiroshi Kawauchi. ISOLATION AND CHARACTERIZATION OF GROWTH HORMONE FROM ATLANTIC COD (*GADUS MORHUA*). *Gen. Comp. Endocrinol.* 73(2):260-269. 1989. FR 34(2)

[Dep. Biochem., Univ. Bergen, Arstadveien 19, 5009 Bergen, Norway]

- GOLDFISH, *CARASSIUS AURATUS*. Gen. Comp. Endocrinol. 13(1):22-27. 1988. FR 34(2)
[H. M. Freeman Aquat. Biol. Cent., Southwest Tex. State Univ., San Marcos 78666]
- 89-001793 Rosenthal, H.; D. Klumpp and J. Wilfuhrl. INFLUENCE OF SPERM PRESENTATION AND CONTACT TIME ON HERRING EGG FERTILIZATION. *J. Appl. Ichthyol.* 1(2):91-96. 1983. In English with German and French summ. FR 34(2)
[Biol. Anstalt Helgoland, Notkestr. 31, 2000 Hamburg 52, West Germany] *Clupea harengus*.
- 89-001794 Rubin, D. A. and J. L. Specker. REGULATION OF TESTES FUNCTION IN *TILAPIA* BY HOMOLOGOUS PROLACTINS. *Am. Zool.* 28(4):56A. 1988. Abstract only. FR 34(2)
[Univ. R.I., Kingston 02891] *Tilapia mossambica*.
- 89-001795 Rutledge, C. Jerry and Thomas L. Beitingen. THE EFFECTS OF DISSOLVED OXYGEN AND AQUATIC SURFACE RESPIRATION ON THE CRITICAL THERMAL MAXIMA OF THREE INTERMITTENT-STREAM FISHES. *Environ. Biol. Fishes* 24(2):141-144. 1990. In English. FR 34(2)
[Div. Environ. Sci., Dep. Biol. Sci., N. Tex. State Univ., Denton 76201] *Fundulus notatus*, *Notropis lutrensis*, and *Pimephales vigilax*.
- 89-001796 Rydevik, M. EPIDERMIS THICKNESS AND SECONDARY SEXUAL CHARACTERISTICS IN MATURE MALE AND IMMATURE BALTIC SALMON, *SAIMO SALAR L.*, PARALLEL TO SEXUAL VARIATIONS AND EFFECTS OF CASTRATION AND ANDROGEN TREATMENT. *J. Fish Biol.* 33(6):941-944. 1988. FR 34(2)
[Dep. Zool., Univ. Stockholm, S-106 91 Stockholm, Sweden]
- 89-001797 Saeki, Hiroki; Michio Nonaka; Hirotada Ozaki and Ken-ichi Arai. [EFFECTS OF $CaCl_2$ ON THE WATER-HOLDING CAPACITY OF SKIPJACK MYOFIBRILS AND ON ITS THERMAL STABILITY.] *Bull. Jpn. Soc. Sci. Fish.* 54(12):2195-2202. 1988. In Japanese with English summ. FR 34(2)
[Taiyo Res. Lab., Taiyo Fish. Co. & Ltd., Tsukushima, Chuu, Tokyo 101, Japan] *Euthynnus pelamis*.
- 89-001798 Safford, S. E. and P. Thomas. PURIFICATION OF PROLACTIN FROM THE ATLANTIC CROAKER (*MICROPOGONIAS UNDULATUS*). *Am. Zool.* 28(4):51A. 1988. Abstract only. FR 34(2)
[Univ. Tex. Mar. Sci. Inst., Port Aransas]
- 89-001799 Sato, Kenji; Reiji Yoshinaka; Yoshiaki Hori and Mamoru Sato. EFFECTS OF SPECIES OF COLLAGEN IN THE INTRAMUSCULAR CONNECTIVE TISSUE OF FISH. *Biochem. Physiol. B Comp. Biochem.* 92(1):87-91. 1989. FR 34(2)
[Dep. Fish., Fac. Agric., Kyoto Univ., Sakyo-Ku, Kyoto 606, Japan] *Epinephelus japonicus*, *Mustelus manazo*, *Anguilla japonica*, *Squalius elongatus*, *Heterobranchius*, and *Acipenser ruthenus*.
- 89-001800 Sayer, M. D. J. and J. Davenport. AMMONIA AND UREA EXCRETION BY AMPHIBIOUS TELEOST *BLENNIUS PHILIS* EXPOSED TO FLUCTUATING SALINITY AND pH. *Comp. Biochem. Physiol. A Comp. Physiol.* 87(4):851-857. 1987.

- 89-001525 Bolz, George R. and R. Gregory Lough. GROWTH THROUGH THE FIRST SIX MONTHS OF ATLANTIC COD, *GADUS MORHUA*, AND HADDOCK, *MELANOGRAMMUS AEGLEFINUS*, BASED ON DAILY OTOLITH INCREMENTS. *U.S. Natl. Mar. Fish. Serv. Fish. Bull.* 86(2):223-235. 1988. FR 34(2)
[Lough: Northeast Fish. Cent. Woods Hole Lab., NMFS, NOAA, Woods Hole, MA 02543]
- 89-001526 Brainerd, E. L. THE MECHANICS OF THE SKIN OF THE SPINY PUFFERFISH DURING INFLATION. *Am. Zool.* 28(4):193A. 1988. Abstract only. FR 34(2)
[Harvard Univ., Cambridge, MA 02138] *Diodon holocanthus*.
- 89-001527 Burns, J. R. and J. A. Flores. GONADAL DYSGENESIS IN THE PLATYFISH *XIPHOPHORUS MACULATUS*. *Am. Zool.* 28(4):147A. 1988. Abstract only. FR 34(2)
[George Washington Univ., Washington, DC]
- 89-001528 Didier, D. A. ANATOMY OF THE JAW JOINT OF THE RATEFISH *HYDROLagus COLLEI* (HOLOCEPHALI). *Am. Zool.* 28(4):76A. 1988. Abstract only. FR 34(2)
[Univ. Mass., Amherst 01003]
- 89-001529 Eldon, Tony. PATTERN VARIATIONS WITHIN THE GALAXIIDAE. *Freshwater Catch No.* 37. p. 13-14. 1988. FR 34(2)
Galaxias spp.
- 89-001530 Encina, Lourdes and Carlos Granado. MULTIVARIATE ANALYSIS OF SOME MORPHOMETRIC CHARACTERS IN THE GENUS *BARBUS* (PISCES, CYPRINIDAE). *Fish. Zool.* 37(3):273-289. 1988. In English with Russian summ. FR 34(2)
[Univ. Seville, Fac. Biol., 41080 Seville, Spain] Data for nine species.
- 89-001531 Ercolini, Carlo; Loretta Masoero and Pietro Ghittino. A COLOR ATLAS OF HISTOLOGY AND HISTOPATHOLOGY OF SOME REARED FINFISH. *Il Pesce* 1988. In Italian and English. FR 34(2)
[Exp. Inst. Anim., Prophylaxis, via Bologna, 148-10154 Torino, Italy]
- 89-001532 Foscari, R. A COMPARATIVE STUDY OF THE SKIN AND GILL STRUCTURE OF OVIPAROUS AND VIVIPAROUS FRESHWATER FISH LARVAE. *J. Fish Biol.* 34(1):31-38. 1989. FR 34(2)
[c/o FAO/UNDP, Private Mail Bag, Suva, Fiji Islands] *Oryzias latipes*, *Colisa latipinna*, and *Xiphophorus helleri*.
- 89-001533 Funes-Rodriguez, Rene and Alfonso Esquivel Herrera. COMPARISON OF SOME MERISTIC, MORPHOMETRIC CHARACTERS AND PIGMENTATION PATTERNS IN *OPISTHONEMA* GILL, 1861 GENUS LARVAE, IN NORTHWESTERN MEXICO. *Cienc. A.* 14(3):51-68. 1988. In English and Spanish. FR 34(2)
[Becario Comision Operacion & Fomento Actividades Acad. Inst. Politecnico Nac., Av. Postal 592, La Paz 23000, Baja California Sur, Mexico]
- 89-001534 Gill, H. S.; A. H. Weatherley; R. Lee and D. Legere. HISTOCHEMICAL CHARACTERIZATION OF MYOTOMAL MUSCLE OF FIVE TELEOST SPECIES. *J. Fish Biol.* 34(3):375-386. 1989. FR 34(2)
[Life Sci. Div., Scarborough Campus, Univ. Toronto, West Hill, ON, Canada M1C 1A4]

- 89-001537 Gosline, William A. MOVABLE HEAD ARMATURE IN HIGHER TELEOSTEAL FISHES. *Environ. Biol. Fishes* 24(1):75-79, 1989. FR 34(2)
[Mus. Zool., Univ. Mich., Ann Arbor 48109]
- 89-001538 Gosztonyi, Atila Esteban. THE INTERCALAR BONE IN THE EEL-POUT FAMILY ZOARCIDAE (OSTEICHTHYES). *Zool. Anz.* 221(3/4):134-144, 1989. FR 34(2)
[Casilla 29, 9120 Puerto Madryn, Chubut, Argentina] Data for 19 species.
- 89-001539 Gutierrez-Urbe, Consuelo and Humberto Chavez. SECOND RECORD TAKEN OF *HOPLUNNIS PACIFICA* LANE AND STEWART (PISCES: NETTA STOMATIDAE) IN THE GULF OF CALIFORNIA. *Cienc. Mar.* 14(3):69-76, 1988. In English and Spanish. FR 34(2)
[Becario Comision Operacion & Fomento Actividades Acad. Inst. Politecnico Nac., Apdo. Postal 592, La Paz 23000, Baja California Sur, Mexico]
- 89-001540 Harrison, Ian James. THE IMPLICATIONS OF SMALL SIZE IN TELEOST FISHES WITH SPECIAL REFERENCE TO THE GOBIOIDEI. *Ph.D. dissertation, Univ. Bristol (United Kingdom)* 508p. 1987. From Diss. Abstr. Int. B Sci. Eng. 49(7):2525, 1989. Order No. BRDX82808. FR 34(2)
- 89-001541 Henault, Michel and Rejean Fortin. COMPARISON OF MERISTIC AND MORPHOMETRIC CHARACTERS AMONG SPRING- AND FALL-SPAWNING ECOTYPES OF COGISCUS (*COREGONUS ARTEDII*) IN SOUTHERN QUEBEC, CANADA. *Can. J. Fish. Aquat. Sci.* 46(1):166-173, 1989. In English with French summ. FR 34(2)
[Minist. Loisirs, Chasse & Pêche, Serv. Aménagement & Exploitation Faune, 585 Hebert, Mont-Laurier, PQ, Canada J9L 2X4]
- 89-001542 Hendrickson, Dean A. MORPHOMETRICS OF *AGOSIA CHIRYSOGASTER* (GIRARD). *Proc. Desert Fishes Council*. 17:144-145, 1987. English and Spanish abstract only. FR 34(2)
[Dep. Zool., Ariz. State Univ., Tempe 85287]
- 89-001543 Hertwig, Iris; Helga Eichelberg and Hans Schneider. THE FINE STRUCTURE OF THE FIN MUSCULATURE IN TWO TELEOST SPECIES WITH DIFFERENT SWIMMING MODES: THE PUFFER, *TETRAODON STEINDACHNERI*, AND THE GOLDFISH, *CARASSIUS AURATUS*. *Cell Tissue Res.* 255(2):363-369, 1989. FR 34(2)
[Zool. Inst. Univ., Poppelsdorfer Schloss, D-5300 Bonn 1, West Germany]
- 89-001544 Hourigan, T. F.; M. Nakamura and Y. Nagahama. TESTIS ULTRASTRUCTURE AND FUNCTION IN INITIAL AND TERMINAL PHASE MALE WRASSE. *Am. Zool.* 28(4):195-198, 1988. Abstract only. FR 34(2)
[Natl. Inst. Basic Biol., Okazaki, Japan] *Thalassoma duperrey*.
- 89-001545 Howell, W. Mike and Thomas E. Denton. GONOPODIAL MORPHOGENESIS IN FEMALE MOSQUITOFISH, *GAMBUSIA AFFINIS AFFINIS*, MASCULINIZED BY EXPOSURE TO DEGRADATION PRODUCTS FROM PLANT STEROLS. *Environ. Biol.*

- AND ECOMORPHOLOGY OF THE GUT IN EUROPEAN CYPRINIDS (TELOSTEI). *J. Fish Biol.*
34(2):315-326. 1989. FR 34(2)
[Zool. Inst. Univ. Salzburg, Hellbrunnerstr. 34, A-5020 Salzburg, Austria]
- 89-001547 Katoh, M. and M. Nishida. BIOCHEMICAL AND EGG SIZE EVOLUTION OF
FRESHWATER FISHES IN THE *RHINOBOBIUS BRUNNEUS* COMPLEX IN OKINAWA. *Am. Zool.*
28(4):35A. 1988. Abstract only. FR 34(2)
[Univ. Ryukyus, Okinawa, Japan]
- 89-001548 Kenchington, William and Satish Choy. ENHANCED VASCULARIZATION OF THE
CENTRAL NERVOUS SYSTEM IN TWO SPECIES OF MUD-BURROWING FISH. *Environ. Biol.*
Fishes 24(3):237-240. 1989. FR 34(2)
[Dep. Biol., School Pure & Appl. Sci., Univ. South Pacific, P.O. Box 1168, Suva, Fiji]
Brachyamblyopus spp. and *Trypauchen* spp.
- 89-001549 Khora, Samanta S. and Kaza V. Rama Rao. VENOMOUS MARINE FISHES. In:
Wildlife Wealth of India (Resources & Management). T.C. Majumuria, editor. p. 176-185.
1986. FR 34(2)
[Estuarine Biol. Stn., Zool. Surv. India, Berhampur, Orissa 1, India]
- 89-001550 Kotrschal, Kurt. TROPHIC ECOMORPHOLOGY IN EASTERN PACIFIC BLENNIOID
FISHES: CHARACTER TRANSFORMATION OF ORAL JAWS AND ASSOCIATED CHANGE OF
THEIR BIOLOGICAL ROLES. *Environ. Biol. Fishes* 24(3):199-218. 1989. FR 34(2)
[Zool. Inst., Univ. Salzburg, Hellbrunnerstr. 34, A-5020 Salzburg, Austria] Data for 34
species.
- 89-001551 L'Abée-Lund, J. H. OTOLITH SHAPE DISCRIMINATES BETWEEN JUVENILE
ATLANTIC SALMON, *SALMO SALAR* L., AND BROWN TROUT, *SALMO TRUTTA* L. *J. Fish*
Biol. 33(6):899-903. 1988. FR 34(2)
[Norwegian Inst. Nat. Res., Tungasletta 2, N-7004 Trondheim, Norway]
- 89-001552 Laurent, Pierre. GILL STRUCTURE AND FUNCTION: FISH. *Comp. Pulmonary*
Physiol. Current Concepts 39:69-120. 1989. FR 34(2)
[Lab. Morphol. Fonctionnelle & Ultrastructurale Adaptations Cent. Nat. Res. Sci.,
Strasbourg, France]
- 89-001553 Lombardi, I.; I. P. Wourms and I. N. Hall. STRUCTURAL ORGANIZATION OF
UMBILICAL STALK APPENDICULAE IN THE VIVIPAROUS SHARK *RHIZOPRIONODON*
TERRAENOVAE. *Am. Zool.* 28(4):80A. 1988. Abstract only. FR 34(2)
[Univ. N.C., Greensboro]
- 89-001554 Long, J. H., Jr. WORK AS A FUNCTION OF BENDING RATE IN THE
INTERVERTEBRAL JOINTS OF CARCHARINID SHARKS. *Am. Zool.* 28(4):14A. 1988.
Abstract only. FR 34(2)
[Duke Univ., Durham, NC 27706]
- 89-001555 Low, W. P.; D. J. W. Lane and Y. K. Ip. A COMPARATIVE STUDY OF
TERRESTRIAL ADAPTATIONS OF THE GILLS IN THREE MUDSKIPPERS - *PERIOPHTHALMUS*
CURYOSPILOS, *BOLEOPHTHALMUS BODDAERTI*, AND *PERIOPHTHALMUS*

- 89-001558 Merrett, N. R. and C. Karrer. OCCURRENCE OF TOOTHLESS RATTAIL IN THE GENUS *CORYPHAENOIDES* AND ITS POSSIBLE SIGNIFICANCE. *J. Fish Biol.* 33(6):954. 1988. FR 34(2)
[Inst. Oceanogr. Sci. Deacon Lab., Brook Rd., Wotton, Godalming, Surrey GU11 1LR, England] *C. corapinus*, *C. brevibarbis*, and *C. mediterranea*.
- 89-001559 Naesjö, T. F.; L. P. Hansen and T. Jarvi. SEXUAL DIMORPHISM IN THE ADIPOSE FIN OF ATLANTIC SALMON, *SALMO SALAR* L. *J. Fish Biol.* 33(6):955-956. 1988. FR 34(2)
[Dir. Nat. Manage., Fish Res. Div., Tungasletta 2, N-7004 Trondheim, Norway]
- 89-001560 Parenti, L. R. THE PHYLOGENETIC SIGNIFICANCE OF BONE AND TOOTH STRUCTURE IN THE RICEFISHES, *ORYZIAS* AND ALLIES. *Am. Zool.* 28(4):13A. 1988. Abstract only. FR 34(2)
[Calif. Acad. Sci., San Francisco]
- 89-001561 Peters, N. [QUANTITATIVE ASPECTS OF REGRESSIVE EVOLUTION DEMONSTRATED BY THE REDUCTION OF THE EYES IN CAVE FISHES.] *Z. Zool. Evolutionsforsch.* 26(6):430-441. 1988. In German with English summ. FR 34(2)
[Zool. Inst. & Zool. Mus. Univ., Martin-Luther-King-Platz 3, D-2000 Hamburg 13, Germany] *Astyanax mexicanus* and *Anoptichthys* spp.
- 89-001562 Puzdrowski, Richard L. and R. Glenn Northcutt. CENTRAL PROJECTIONS OF THE PINEAL COMPLEX IN THE SILVER LAMPREY *ICHTHYOMYZON UNICUSPIS*. *Cell Res.* 255(2):269-274. 1989. FR 34(2)
[Univ. Tex. Med. Branch, Mar. Biomed. Inst., 200 University Blvd., Galveston 77550]
- 89-001563 Puzdrowski, Richard Leo. THE PERIPHERAL DISTRIBUTION AND CENTRAL PROJECTIONS OF THE TRIGEMINAL, FACIAL AND LATERAL LINE NERVES IN GOLD CARASSIUS *AURATUS*. *Ph.D. dissertation, Univ. Mich.* 181p. 1988. From Diss. Abst. B Sci. Eng. 49(8):2959. 1989. Order No. DA8821640. FR 34(2)
- 89-001564 Rai, S. C.; I. M. Tripathi and K. Pandey. HISTOCYTOLOGICAL IDENTIFICATION OF THE TINCTORIAL CELLS IN THE PITUITARY GLAND OF AN ROSE PERCH *COLISA FASCIATUS* (BL. AND SCHN.). *J. Inst. Agric. Anim. Sci.*

89-001304 Kepenyes, J. and L. Varadi. AERATION AND OXYGENATION IN AQUACULTURE. *U.N. Aquacult. Dev. Coord. Prog.* ADCP/REP/84/21. p. 473-507. 1984. FR 34(2)
[Fish Cult. Res. Inst., Szarvas, Hungary]

89-001305 Kepenyes, J. DESIGN OF PUMPING STATION. *U.N. Aquacult. Dev. Coord. Prog.* ADCP/REP/84/21. p. 401-423. 1984. FR 34(2)
[Fish Cult. Res. Inst., Szarvas, Hungary]

89-001306 Kepenyes, J. RECIRCULATING SYSTEMS AND RE-USE OF WATER IN AQUACULTURE. *U.N. Aquacult. Dev. Coord. Prog.* ADCP/REP/84/21. p. 373-398. 1984. FR 34(2)
[Fish Cult. Res. Inst., Szarvas, Hungary]

89-001307 Kepenyes, Janos. PLANNING OF FISH HATCHERIES. *U.N. Aquacult. Dev. Coord. Prog.* ADCP/REP/84/21. p. 325-340. 1984. FR 34(2)
[Fish Cult. Res. Inst., Szarvas, Hungary]

89-001308 Klapsis, A. and R. Burley. FLOW DISTRIBUTION STUDIES IN FISH REARING TANKS. PART 1 - DESIGN CONSTRAINTS. *Aquacult. Eng.* 3(2):103-118. 1984. FR 34(2)
[Dep. Chem. & Process Eng., Heriot-Watt Univ., Chambers St., Edinburgh EH1 1HF, Scotland]

89-001309 Klemetson, Stanley and Gary L. Rogers. A REALISTIC APPROACH TO SMALL AQUACULTURE FACILITIES. *Aquacult. Eng.* 3(2):153-157. 1984. FR 34(2)
[Dep. Civil Eng., Brigham Young Univ., Provo, UT 84602]

89-001310 Klemetson, Stanley L. and Gary L. Rogers. AQUACULTURE POND TEMPERATURE MODELING. *Aquacult. Eng.* 4(3):191-208. 1985. FR 34(2)
[Dep. Civil Eng., Brigham Young Univ., Provo, UT 84602]

89-001311 Koops, H. and H. Kuhlmann. GRADING OF FARMED EELS BY MEANS OF MESHWIRE BOXES. *Aquacult. Eng.* 1(1):11-21. 1982. FR 34(2)
Anguilla sp.

89-001312 Kovacs, Gy. and A. Szollosi-Nagy. HYDROLOGICAL INFORMATION FOR DESIGN AND OPERATION OF AQUACULTURE SYSTEMS. *U.N. Aquacult. Dev. Coord. Prog.* ADCP/REP/84/21. p. 9-22. 1984. FR 34(2)
[Res. Cent. Water Resour. Dev., Budapest, Hungary]

89-001313 Kovari, J. CONSIDERATIONS IN THE SELECTION OF SITES FOR AQUACULTURE. *U.N. Aquacult. Dev. Coord. Prog.* ADCP/REP/84/21. p. 3-8. 1984. FR 34(2)
[FAO of the UN, Rome, Italy]

89-001316 Kovari, J. THE ORGANIZATION AND SUPERVISION OF FISH CONSTRUCTION. *U.N. Aquacult. Dev. Coord. Prog. ADCP/REP/84/21* p. 225. 1984. FR 34(2)

[FAO of the UN, Rome, Italy]

89-001317 Kumarasiri, W. S. A. L. and Patha Senewiratne. INDUCED SPAWNINGS OF CHINESE CARPS IN SRI LANKA. *Aquaculture* 74(1/2):51-62. 1988. [Freshwater Fish Breeding & Exp. Stn., Uda Walawe, Sri Lanka] *Ctenophorus idella*.

89-001318 Leo, Cheng-Sheng and Clyde S. Tamaro. ADVANCES AND FUTURE PROSPECTS OF CONTROLLED MATURATION AND SPAWNING OF GREY MULLET (*MUGIL CIPHER*) IN CAPTIVITY. *Aquaculture* 74(1/2):63-73. 1988. FR 34(2)
[Oceanic Inst., Makapuu Point, Waimanalo, HI 96795]

89-001319 Leeds, Roger. FINANCING AQUACULTURE PROJECTS. *Aquacult. Eng.* 4(1):109-113. 1986. FR 34(2)
[Int. Finance Corp., 1818 H St. NW, Washington, DC 20006]

89-001320 Leger, Philippe and Patrick Sorgeloos. AUTOMATION IN STOCK MAINTENANCE AND JUVENILE SEPARATION OF THE MYSID *MYSTICOPUS* (MOLENOCK). *Aquacult. Eng.* 1(1):45-53. 1982. FR 34(2)
[Artemia Ref. Cent., State Univ. Ghent, J. Plateaustr. 22, B-9000 Ghent, Belgium]

89-001321 Majoros, F. FISH FEED PRODUCTION, STORAGE AND TRANSPORTATION. *Aquacult. Dev. Coord. Prog. ADCP/REP/84/21* p. 437-444. 1984. FR 34(2)
[Fish Cult. Res. Inst., Szarvas, Hungary]

89-001322 Marnoll, Leo F. IMPACTS OF HATCHERY STOCKS ON WILDLIFE POPULATIONS. In: *Fish Culture in Fisheries Management*, Richard Stroud, editor. p. 347. 1986. FR 34(2)

89-001323 McSweeney, Edward S. APPLIED RESEARCH IN AQUACULTURE - AN OVERVIEW. *Aquacult. Eng.* 5(2-4):325-332. 1986. FR 34(2)
[59-220 Alapio Rd., Haleiwa, HI 96712]

89-001324 Meyer, D. I. and D. E. Bruno. COMPUTER MODELING OF THE OXYGEN LEVELS IN A STILLWATER AQUACULTURE POND. *Aquacult. Eng.* 1(1):1-10. 1982. FR 34(2)
[Dep. Electrical Eng., Univ. Calif., Davis 95616]

89-001326 Miller, Gary E. and George S. Libey. EVALUATION OF A TRICKLING BIOFILTER IN A RECIRCULATING AQUACULTURE SYSTEM CONTAINING CHANNEL CATFISH. *Aquacult. Eng.* 3(1):39-57. 1984. FR 34(2)

[Dep. For. & Nat. Resour., Purdue Univ., West Lafayette, IN 47907] *Ictalurus punctatus*.

89-001327 Moore, Lori Barck. INPUT OF ORGANIC MATERIALS INTO AQUACULTURE SYSTEMS: EMPHASIS ON FEEDING SEMI-INTENSIVE SYSTEMS. *Aquacult. Eng.* 5(2-4):123-133. 1986. FR 34(2)

[Aquacult. Res. Program, Dep. Anim. Sci., Univ. Hawaii, Honolulu 96822]

89-001328 Muench, Kevin A.; Robert D. Thomsen and Richard D. Croissant. COMPUTERS IN AQUACULTURE. *Aquacult. Eng.* 5(2-4):199-217. 1986. FR 34(2)

[Island Sci., 1650 Indian Valley Rd., Novato, CA 94948]

89-001329 Muller, F. and L. Varadi. FRESHWATER CAGE FISH FARMING. *U.N. Aquacult. Dev. Coord. Prog. ADCP/REP/84/21*. p. 353-370. 1984. 34(2)

[Fish Cult. Res. Inst., Szarvas, Hungary]

89-001330 Ngamvongchon, S.; O. Pawaputanon; W. Leelapatra and W. E. Johnson. EFFECTIVENESS OF AN LHRH ANALOGUE FOR THE INDUCED SPAWNING OF CARP AND CATFISH IN NORTHEAST THAILAND. *Aquaculture* 74(1/2):35-40. 1988. FR 34(2)

[Inland Fish. Div., Dep. Fish., Bangkok, Bangkok 10900, Thailand] *Claria macrocephalus*, *Hypophthalmichthys molitrix*, and *Aristichthys nobilis*.

89-001331 Paller, M. H. and W. M. Lewis. RECIPROCATING BIOFILTER FOR WATER REUSE IN AQUACULTURE. *Aquacult. Eng.* 1(2):139-151. 1982. FR 34(2)

[Fish. Res. Lab. & Dep. Zool., South. Ill. Univ., Carbondale 62901]

89-001332 Papoulias, Diana. GROWTH AND SURVIVAL OF LARVAL RAZORBACK SUCKER (*XYRAUCHEN TEXANUS*) IN PONDS AT 3 FERTILIZATION RATES. *Proc. Desert Fishes Council*. 17:176-177. 1987. English and Spanish abstract only. FR 34(2)

[Dep. Zool., Ariz. State Univ., Tempe 85287]

89-001333 Peter, Richard E.; Hao-Ren Lin and Glen Van der Kraak. INDUCED OVULATION AND SPAWNING OF CULTURED FRESHWATER FISH IN CHINA: ADVANCES IN APPLICATION OF GnRH ANALOGUES AND DOPAMINE ANTAGONISTS. *Aquaculture* 74(1/2):1-10. 1988. FR 34(2)

[Dep. Zool., Univ. Alberta, Edmonton, AB, Canada T6G 2E9]

89-001334 Pruder, Gary D. AQUACULTURE AND CONTROLLED EUTROPHICATION PHOTOAUTOTROPHIC/HETEROTROPHIC INTERACTION AND WATER QUALITY. *Aquacult. Eng.* 5(2-4):115-121. 1986. FR 34(2)

[Oceanic Inst., Waimanalo, HI 96795]

THREATENED AND ENDANGERED FISHES. In: *Fish Culture in Fisheries Management*
Richard Stroud, editor. p. 271-285. 1986. FR 34(2)

89-001336 Samuelsen, O. B.; A. Ervik and E. Solheim. A QUALITATIVE AND
QUANTITATIVE ANALYSIS OF THE SEDIMENT GAS AND DIETHYLETHYER EXTRACT OF THE
SEDIMENT FROM SALMON FARMS. *Aquaculture* 74(3/4):277-285. 1988. FR 34(2)
[Dep. Pharmacol. & Toxicol., Univ. Bergen, MFH-Bygget, N-5021 Bergen, Norway]

89-001337 Sarig, S. IS AN INCREASE IN YIELDS IN INTENSIVE COMMERCIAL FISH
FARMING ALWAYS ACCOMPANIED BY AN INCREASE IN PROFITABILITY? *Bomd*
40(4):122-124. 1988. FR 34(2)
[Lab. Res. Fish Dis., Nir David 19150, Israel] *Cyprinus carpio*, *Tilapia nilotica*,
oreo, *Mugil cephalus*, *Liza romoda*, and *Hypophthalmichthys molitrix*.

89-001338 Shang, Y. C. ECONOMIC ASPECTS OF AQUAFARM CONSTRUCTION AND
MAINTENANCE. U.N. *Aquacult. Dev. Coord. Prog.* ADCP/REP/84/21. p. 539-550. 1984.
34(2)
[Univ. Hawaii, Honolulu]

89-001339 Shang, Yung C. RESEARCH ON AQUACULTURE ECONOMICS: A REVIEW
Aquacult. Eng. 5(2-4):103-108. 1986. FR 34(2)
[Dep. Agric. & Resour. Econ., Univ. Hawaii, Honolulu 96822]

89-001340 Shleser, Robert. AQUACULTURE IN HAWAII, A SOCIAL AND ECONOMIC
DILEMMA. *Aquacult. Eng.* 5(2-4):87-101. 1986. FR 34(2)
[Aquacult. Concepts, P.O. Box 360, Waimanalo, HI 96795]

89-001341 Stone, Nathan Mayhew. FACTORS AFFECTING HYDROLOGIC PARAMETERS
USED IN MODELING FISHPOND WATER REQUIREMENTS. *Ph.D. dissertation, Auburn Univ.*
191p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(9):3520. 1989. Order No. DA8925785
34(2)

89-001342 Stroud, Richard H., editor. FISH CULTURE IN FISHERIES MANAGEMENT
PROCEEDINGS OF A SYMPOSIUM ON THE ROLE OF FISH CULTURE IN FISHERY
MANAGEMENT AT LAKE OZARK, MISSOURI, MARCH 31-APRIL 3, 1985. *Am. Fish. Soc.*
(Bethesda, Md.) 481p. 1986. FR 34(2)
Individual papers indexed in this issue of *Fisheries Review*.

89-001343 Szilvassy, Z. SOILS ENGINEERING FOR DESIGN OF PONDS, CANALS AND DAMS
IN AQUACULTURE. U.N. *Aquacult. Dev. Coord. Prog.* ADCP/REP/84/21. p. 79-101. 1984.
FR 34(2)
[Res. Cent. Water Resour. Dev., Budapest, Hungary]

89-001344 Tennessee Valley Authority. RACEWAY PRODUCTION OF LARGE CHANNEL
CATFISH FINGERLINGS AND WINTER ROUND TANK CULTURE OF RAINBOW TROUT USING
HEATED WATER. *Tenn. Valley Authority TVA/ONRED/AWR-85/3*. 31p. 1984. From U.S.
Government Reports 68(8) 21. 1988. Available from NTIS as DE85900619/GAR. FR 34(2)
Oncorhynchus mykiss and *Ictalurus punctatus*.

89-001345 Thalathiah, Saidin; Ashbar, Othman, Ahmad, and Mohamed, G. I. A REVIEW OF FISH CULTURE IN THE
ARAB WORLD. *Arab. J. Sci. Eng.* 10(1):1-10. 1988. FR 34(2)

[Fish Cult. Res. Inst., Szarvas, Hungary]

89-001348 Varadi, L. MECHANIZED HARVESTING IN FISH CULTURE. *U.N. Aquacult. Dev. Coord. Prog.* ADCP/REP/84/21. p. 461-472. 1984. FR 34(2)
[Fish Cult. Res. Inst., Szarvas, Hungary]

89-001349 Varadi, L. MECHANIZED FEEDING IN AQUACULTURE. *U.N. Aquacult. Dev. Coord. Prog.* ADCP/REP/84/21. p. 445-460. 1984. FR 34(2)
[Fish Cult. Res. Inst., Szarvas, Hungary]

89-001350 Wasilewska, Blandyna E. BOTTOM FAUNA IN PONDS WITH INTENSE FISH REARING. *Ekol. Pol.* 26(4):513-536. 1978. In English with Polish summ. FR 34(2)
[Pond & River Dep., Inland Fish. Inst., Zabieniec, 05-500 Piaseczno, Poland]

89-001351 Weatherley, L. R. APPLICATION OF SIMPLE DYNAMIC RESPONSE ANALYSIS TO A RECIRCULATING AQUACULTURE SYSTEM - A PREVIEW. *Aquacult. Eng.* 1(2):93-113. 1982. FR 34(2)
[Aquacult. Eng. Res. Group, Dep. Chem. & Process Eng., Heriot-Watt Univ., Chamber St., Edinburgh EH1 1HX, Scotland]

89-001352 Westers, Harry ENGINEERING ADVANCES RELATED TO NEW PRODUCTION CAPABILITIES. In: *Fish Culture in Fisheries Management*. Richard Stroud, editor. p. 229-233. 1986. FR 34(2)

89-001353 Wickins, J. F. and E. Jones. A NOVEL, LOW-STRESS EEL GRADE INCORPORATING A QUICK-RELEASE MECHANISM. *Aquacult. Eng.* 4(3):223-233. 1985. FR 34(2)
[MAFF, Dir. Fish. Res., Fish. Exp. Stn., Conwy, Gwynedd LL32 8UB, Wales] *Anguilla anguilla*.

89-001354 Zonneveld, N.; Rustidja, W. J. A. R. Viveen and Wayan Mudana. INDUCED SPAWNING AND EGG INCUBATION OF THE ASIAN CATFISH, *CLARIAS BATRACHUS*. *Aquaculture* 74(1/2):41-47. 1988. FR 34(2)
[Dep. Fish Cult. & Fish., Agric. Univ., P.O. Box 338, 6700 AH Wageningen, Netherlands]

TROUT AND SALMON CULTURE

89-001355 Billard, R.; M. Jalibert; Jacqueline Marcel and P. Carpentier. [THE MANAGEMENT OF BROOD FISH, GAMETES AND EGGS IN ATLANTIC SALMON AND VARIOUS SALMONIDS.] In: *The Restoration of Salmonid Rivers*. M. Thibault and VARIOUS

89-001357 Bonneville Power Administration. IMPROVING HATCHERY EFFECTIVENESS AS RELATED TO SMOLTIFICATION. *Bonneville Power Admin.* DOE/BP-899. 357p. 1987. From U.S. Government Reports 88(13):20-21. 1989. Available from NTIS as DE8903264/GAR. FR 34(2)

89-001358 Bonneville Power Administration. PAPERS ON THE USE OF SUPPLEMENTAL OXYGEN TO INCREASE HATCHERY REARING CAPACITY IN THE PACIFIC NORTHWEST. *Bonneville Power Admin.* DOE/BP/816. 53p. 1987. From U.S. Government Reports 87(24):18. 1987. Available from NTIS as DE87009907/GAR. FR 34(2)
Oncorhynchus kisutch and *O. tshawytscha*.

89-001359 Buchanan, David V. and John R. Moring. MANAGEMENT PROBLEMS WITH RECYCLING OF ADULT SUMMER STEELHEAD TROUT AT FOSTER RESERVOIR, OREGON. In: *Fish Culture In Fisheries Management*. Richard Stroud, editor. p. 191-200. 1986. FR 34(2)
[Dep. Fish & Wildl., Corvallis, OR] *Oncorhynchus mykiss*.

89-001360 Carme, H. and L. Jonard. [THE PRODUCTION OF EGGS AND RESTOCKING FRY OF ATLANTIC SALMON RAISED ENTIRELY IN FRESH WATER.] In: *The Restoration of Salmonid Rivers*. M. Thibault and R. Billard, editors. p. 239-250. 1987. In French with English summ. FR 34(2)
[CSP, DR No. 6, 84 Ave. Puy-de-Dome, 63000 Clermont-Ferrand, France] *Salmo salar* in France.

89-001361 Crawford, D. L.; C. B. Schreck; S. Bradford; H. Lorz and R. D. Ewing. DEVELOPMENT OF RATIONS FOR THE ENHANCED SURVIVAL OF SALMON: ANNUAL REPORT 1986. *Oreg. State Univ.* DOE/BP/11893-3. 49p. 1987. From U.S. Government Reports 88(2):16. 1988. Available from NTIS as DE87013982/GAR. FR 34(2)
Oncorhynchus kisutch and *O. tshawytscha*.

89-001362 Crawford, D. L.; C. B. Schreck; C. S. Bradford; H. Lorz and R. D. Ewing. DEVELOPMENT OF RATIONS FOR THE ENHANCED SURVIVAL OF SALMON: ANNUAL REPORT, 1987. *Bonneville Power Admin.* DOE/BP/11888-4. 41p. 1987. From U.S. Government Reports 88(21):19. 1989. Available from NTIS as DE88007383/GAR. FR 34(2)

89-001363 Dumas, J. and F. Gayou. [EXTENSIVE PRODUCTION OF JUVENILE ATLANTIC SALMON (*SALMO SALAR* L.) IN PONDS IN THE "MASSIF CENTRAL" AND THE "PYRENEES".] In: *The Restoration of Salmonid Rivers*. M. Thibault and R. Billard, editors. p. 273-282. 1987. In French with English summ. FR 34(2)
[INRA, Lab. Ecol. Poissons, St. Pee-sur-Nivelle, 64310 Ascaïn, France] *Salmo salar*.

[Environ. & Tech. Serv. Div., Natl. Mar. Fish. Serv., Portland, OR] *Oncorhynchus* spp.

89-001366 Goodrich, C. L.; S. M. Barnett; G. Levine and K. L. Simpson. THE
UTILIZATION OF CLAM WASTE MEAL AS A PROTEIN SOURCE FOR RAINBOW TROUT
SALMO GAIIRDNERI. *Aquacult. Eng.* 3(4):289-301. 1984. FR 34(2)

[Dep. Food Sci. & Technol., Nutr. & Dietetics, Univ. R.I., Kingston 02881]

89-001367 Gresswell, Robert E. and John D. Varley. EFFECTS OF A CENTURY OF HUMAN
INFLUENCE ON THE CUTTHROAT TROUT OF YELLOWSTONE LAKE. *Am. Fish. Soc. Symp.*
4:45-52. 1988. FR 34(2)

[U.S. Fish & Wildl. Serv., P.O. Box 184, Yellowstone Natl. Park, WY 82190]
Oncorhynchus clarki bouvieri.

89-001368 Grewe, Peter M. and Paul D. N. Hebart. MITOCHONDRIAL DNA DIVERSITY
AMONG BROODSTOCKS OF THE LAKE TROUT, *SALVELINUS NAMAYCUSH*. *Can. J. Fish.*
Aquat. Sci. 45(12):2114-2122. 1988. In English with French summ. FR 34(2)

[Dep. Nat. Resour., Cornell Univ., Ithaca, NY 14853]

89-001369 Haegg, A. [FISH CULTIVATION WITH ENERGY FROM AGRICULTURE.] *Sverige.*
Lantbruksuniv. [Sweden] SLU-LBT-E-55. 63p. 1985. In Swedish. From U.S. Government
Reports 88(7):22. 1988. Available from NTIS as DE88750399/GAR. FR 34(2)

Oncorhynchus mykiss.

89-001370 Hassler, Thomas J.; Mark E. Coleman and Bryce R. Nielson. HATCHERIES AND
WILD TROUT MANAGEMENT. In: *Fish Culture In Fisheries Management*, Richard Stroud
editor, p. 129-136. 1986. FR 34(2)

[U.S. Fish & Wildl. Serv., N. Cent. Reservoir Invest., Pierre, SD] *Oncorhynchus mykiss*
and *O. clarki*.

89-001371 Hill, J. M. and T. Olson. EVALUATION OF A LOW-COST SALMON PRODUCTION
FACILITY: ANNUAL REPORT FY 1987. *Clatsop Econ. Dev. Comm. Fish. Project*
DOE/BP/11887-4. 45p. 1988. From U.S. Government Reports 88(21):20. 1988. Available from
NTIS as DE88008495/GAR. FR 34(2)

89-001372 Holm, Jens Chr. REVIEW ON EXPERIMENTS ON USE OF ZOOPLANKTON AS
FOOD IN SALMONID SMOLT PRODUCTION. *Aquacult. Eng.* 5(1):33-47. 1986. FR 34(2)

[Inst. Fish. Biol., Univ. Bergen, N-5011 Bergen Nordnes, Norway]

89-001373 Isaksson, Arni. SALMON RANCHING: A WORLD REVIEW. *Aquaculture* 75(1/2):1-
33. 1988. FR 34(2)

[Inst. Freshwater Fish., P.O. Box 5252, 125 Reykjavik, Iceland]

89-001375 Kincaid, Harold L. and Charles R. Berry, Jr. TROUT BROODSTOCKS USED IN MANAGEMENT OF NATIONAL FISHERIES. In: *Fish Culture in Fisheries Management* Richard Stroud, editor. p. 211-222. 1986. FR 34(2)

[U.S. Fish & Wildl. Serv., Natl. Res. & Dev. Lab., Wellsboro, PA] *Salmo trutta*, *Oncorhynchus mykiss*, *O. clarki*, *Salvelinus fontinalis*, and *S. namaycush* in the United States.

89-001376 Kobayashi, A. and T. Ishiguro. [PRE-RESEARCH FOR CONSTRUCTION OF SALMON HATCHERY IN THE NORTHERN SAKHALIN ISLANDS USSR.] *Tech. Rep. Hokkaido Salmon Hatchery* No. 157. p. 10-34. 1988. In Japanese. FR 34(2)

89-001377 Krueger, Charles C.; Bruce L. Swanson and James H. Selgeby. EVALUATION OF HATCHERY-REARED LAKE TROUT FOR REESTABLISHMENT OF POPULATIONS IN THE APOSTLE ISLANDS REGION OF LAKE SUPERIOR, 1960-84. In: *Fish Culture in Fisheries Management*. Richard Stroud, editor. p. 93-107. 1986. FR 34(2)

[Fish. Sci., Cornell Univ., Ithaca, NY 14853] *Salvelinus namaycush*.

89-001378 Leith, D.; M. Newman; S. Kaattari; N. Holland and J. Dekoning. EFFECTS OF VITAMIN NUTRITION ON THE IMMUNE RESPONSE OF HATCHERY-REARED SALMONIDS. ANNUAL REPORT, FY 1987. *Abernathy Salmon Cult. Technol. Cent.* DOE/BP. 18010-1. 76 p. 1987. From U.S. Government Reports 88(21):19. 1988. Available from NTIS DE88007404/GAR. FR 34(2)

Oncorhynchus tshawytscha.

89-001379 McMullin, Steve L. and Thurston Dotson. USE OF MCBRIDE LAKE STRAITS YELLOWSTONE CUTTHROAT TROUT FOR LAKE AND RESERVOIR MANAGEMENT MONTANA. *Am. Fish. Soc. Symp.* 4:42-44. 1989. FR 34(2)

[Dep. Fish, Wildl. & Parks, 1420 E. Sixth Ave., Helena, MT 59620] *Oncorhynchus clarki bouvieri*.

89-001380 Morrison, John K. and Robert G. Piper. EFFECT OF REUSED WATER ON ATLANTIC SALMON. *Prog. Fish-Cult.* 50(2):110-112. 1988. FR 34(2)

[Olympia Fish Health Cent., 2625 Parkmont Ln., Olympia, WA 98502] *Salmo salar*.

89-001381 Munro, A. L. S. and I. F. Waddell. GROWTH OF SALMON AND TROUT FARMING IN SCOTLAND. In: *Developments in Fisheries Research in Scotland*. B. S. Bailey and B. Parrish, editors. p. 246-263. 1987. FR 34(2)

Salmo salar and *Oncorhynchus mykiss*

89-001382 Novotny, J. F.; T. L. Macy, J. T. Gardener and J. W. Beeman. PEN REARING AND IMPRINTING OF FALL CHINOOK SALMON: ANNUAL REPORT, 1986. *U.S. Fish Wildl. Serv. Willard Field Sta.* DOE/BP/13084-3. 86p. 1987. From U.S. Government Reports 87(22):19-20. 1987. Available from NTIS as DE87009916/GAR. FR 34(2)

Oncorhynchus tshawytscha in Oregon and Washington

89-001383 Oregon University Health Services Center. ETIOLOGY OF EARLY LIFESTAGE DISEASES. PROJECT 84-44: FINAL REPORT. *Oreg. Univ. Health Sci. Cent.* 52p. 1987. From U.S. Government Reports 87(13):17-18. 1987. Available from NTIS DE87002985/GAR. FR 34(2)

89-001386 Poxton, M. G.; K. R. Murray and B. T. Linfoot. THE GROWTH OF TURBO (*SCOPHTHALMUS MAXIMUS* (L.)) IN RECIRCULATING SYSTEMS. *Aquacult. Eng.* 1(1):23-34. 1982. FR 34(2)

[Dep. Brewing & Biol. Sci. & Aquacult. Eng. Group, Heriot-Watt Univ., Chambers St. Edinburgh EH1 1HX, Scotland]

89-001387 Reisenbichler, Reginald R. and John D. McIntyre. REQUIREMENTS FOR INTEGRATING NATURAL AND ARTIFICIAL PRODUCTION OF ANADROMOUS SALMONIDS IN THE PACIFIC NORTHWEST. In: *Fish Culture in Fisheries Management*. Richard Stroud, editor. p. 365-374. 1986. FR 34(2)

[U.S. Fish & Wildl. Serv., Natl. Fish. Res. Cent., Seattle, WA]

89-001388 Ridler, N. B. and M. Kabir. ECONOMIC ASPECTS OF SALMON AQUACULTURE IN ATLANTIC CANADA. *Can. Ind. Rep. Fish. Aquat. Sci.* No. 188. 13p. 1988. In English with French summ. FR 34(2)

[Biol. Stn., St. Andrews, NB, Canada ECG 2X0] *Salmo salar*.

89-001389 Ringo, Einar; Roar Kristoffersen and Baard Nilsen. WILD AND HATCHERY REARED LANDLOCKED ARCTIC CHARR, *SALVELINUS ALPINUS* (L.), FROM LAK TAKVATN, REARED IN FRESH AND SEA WATER. CONTENT OF FREE AMINO ACIDS AND NINHYDRIN-POSITIVE SUBSTANCES. *Aquaculture* 74(3/4):359-367. 1988. FR 34(2)

[Inst. Fish., Univ. Tromsø, P.O. Box 3083, Guleng, N-9001 Tromsø, Norway]

89-001390 Serns, Steven L. IMPACT OF AN ARTIFICIAL SPAWNING OPERATION ON THE WALLEYE POPULATION OF ESCANABA LAKE, WISCONSIN. In: *Fish Culture In Fisheries Management*. Richard Stroud, editor. p. 263-270. 1986. FR 34(2)

89-001391 Stradmeyer, L. and J. E. Thorpe. THE RESPONSES OF HATCHERY-REARED ATLANTIC SALMON, *SALMO SALAR* L., PARR TO PELLETED AND WILD PREY. *Aquacult. Fish. Manage.* 18(1):51-61. 1987. FR 34(2)

[Thorpe: Freshwater Fish. Lab., Pitlochry, Perthshire PH16 5LB, Scotland]

89-001392 Vens-Cappell, Bernhard. THE EFFECTS OF EXTRUSION AND PELLETING ON FEED FOR TROUT ON THE DIGESTIBILITY OF PROTEIN, AMINO ACIDS AND ENERGY AND ON FEED CONVERSION. *Aquacult. Eng.* 3(1):71-89. 1984. FR 34(2)

[Dorpsfelde 4, D-2000 Hamburg 54, West Germany] *Salmo* spp.

89-001393 Vijayan, M. M. and J. F. Leatherland. EFFECT OF STOCKING DENSITY ON THE GROWTH AND STRESS-RESPONSE IN BROOK CHARR, *SALVELINUS FONTINALIS*. *Aquaculture* 75(1/2):159-170. 1988. FR 34(2)

[Dep. Zool., Univ. Guelph, Guelph, ON, Canada N1G 2W1]

Proc. Gulf Corlbb. Fish. Inst. 38:485-496. 1987. In French with English summ. FR 34(2)
[Univ. Antilles & Guyane, Lab. Biol. & Physiol. Anim., B.P. 592, 97167 Pointe-a-Pitre
Cedex, Guadeloupe, French West Indies]

89-001395 Barrows, Frederic T.; William A. Lellis and John G. Nickum. INTENSIVE CULTURE OF LARVAL WALLEYES WITH DRY OR FORMULATED FEED: NOTE ON SWIM BLADDER INFLATION. *Prog. Fish-Cult.* 50(3):160-166. 1988. FR 34(2)
[U.S. Fish & Wildl. Serv., Fish Technol. Cent., 4050 Bridger Canyon Rd., Bozeman, MT 59715] *Stizostedion vitreum*.

89-001396 Bornbeo-Tuburan, Isidra; Renato F. Agbayani and Precilla F. Subosa. EVALUATION OF ORGANIC AND INORGANIC FERTILIZERS IN BRACKISHWATER MILKFISH PONDS. *Aquaculture* 76(3/4):227-235. 1989. FR 34(2)
[Aquacult. Dep., Southeast Asian Fish. Dev. Cent., Leganes Brackishwater Stn., Leganes, Iloilo, Philippines] *Chanos chanos*.

89-001397 Boujard, Thierry; Pierre-Yves Le Bail and Paul Planquette. [PRESENTATION OF A FEW FRESHWATER FISHES FROM FRENCH GUIANA WITH FISH FARMING POTENTIAL.] *Aquat. Living Resour.* 1(2):107-113. 1988. In French with English summ. FR 34(2)
[INRA, Hydrobiol., BP 709, 97387 Kourou Cedex, French Guiana] *Myliobatis rhomboidalis*, *Leporinus friderici*, *Astronotus ocellatus*, *Cichla ocellaris*, *Plagioscion squamosissimus*, *Hoplosternum littorale*, *Brachyplatystoma vailanti*, and *Pseudoplatystoma fasciatum*.

89-001398 Champigneulle, A. A FIRST EXPERIMENT IN MASS-REARING OF COREGONID LARVAE IN TANKS WITH A DRY FOOD. *Aquaculture* 74(3/4):249-261. 1988. FR 34(2)
[Stn. Hydrobiol. Lacustre, I.N.R.A., B.P. 11 F-75, Ave. Corzent, 74203 Thonon les Bains, France] *Coregonus lavaretus* in France.

89-001399 Chang, William Y. B. and Hai Ouyang. DYNAMICS OF DISSOLVED OXYGEN AND VERTICAL CIRCULATION IN FISH PONDS. *Aquaculture* 74(3/4):263-276. 1988. FR 34(2)
[Great Lakes Res. Div., Univ. Mich., Ann Arbor 48109]

89-001400 Dunning, Dennis J. POLICY ISSUES CONCERNING THE HUDSON RIVER STRIPED BASS HATCHERY. *Trans. Northeast Fish Wildl. Conf.* 41. p. 222. 1984. Abstract only. FR 34(2)
[N.Y. Power Authority, 123 Main St., White Plains 10601] *Morone saxatilis* in New York.

89-001401 Escover, E. M.; O. T. Salon and I. R. Smith. THE ECONOMICS OF TILAPIA FINGERLING PRODUCTION AND MARKETING IN THE PHILIPPINES. *Aquacult. Fish. Manage.* 18(1):1-13. 1987. FR 34(2)
[ICLARM, MC P.O. Box 1501, Metro Manila, Philippines] *Tilapia nilotica*.

89-001402 Fagbenro, O. A. and D. H. J. Sydenham. EVALUATION OF *CLARIA FISHERIENSIS* (SYDENHAM) UNDER SEMI-INTENSIVE MANAGEMENT IN PONDS. *Aquaculture* 74(3/4):287-291. 1988. FR 34(2)
[Dep. Fish. & Wildl., Fed. Univ. Technol., PMB 704, Akure, Nigeria]

EFFECT OF MANURES AND CHEMICAL FERTILIZERS ON THE PRODUCTION OF
OREOCHROMIS NILOTICUS IN EARTHEN PONDS. *Aquaculture* 76(1/2):37-42. 1989. FR 34(2)
[Int. Cent. Aquacult. & Agric. Exp. Stn., Auburn Univ., Auburn, AL 36849]

89-001405 Harrell, Reginal M.; Donald W. Meritt; John N. Hochheimer; Donald W. Webster
and Wallace D. Miller. OVERWINTERING SUCCESS OF STRIPED BASS AND HYBRID STRIPED
BASS HELD IN CAGES IN MARYLAND. *Prog. Fish-Cult.* 50(2):120-121. 1988. FR 34(2)
[Horn Point Environ. Lab., P.O. Box 775, Cambridge, MO 21613] *Morone saxatilis* and *M.
chrysops*.

89-001406 Heinsbroek, L. T. N. PRELIMINARY INVESTIGATIONS ON HUSBANDRY,
NUTRITION AND GROWTH OF GLASS EELS AND ELVERS, *ANGUILLA ANGUILLA* L.
Aquacult. Fish. Manage. 20(1):119-127. 1989. FR 34(2)
[Dep. Fish Cult. & Fish., Agric. Univ., P.O. Box 338, Wageningen, Netherlands]

89-001407 Hopher, B.; A. Milstein; H. Leventer and B. Teltsch. THE EFFECT OF FISH
DENSITY AND SPECIES COMBINATION ON GROWTH AND UTILIZATION OF NATURAL FOOD
IN PONDS. *Aquacult. Fish. Manage.* 20(1):59-71. 1989. FR 34(2)
[Milstein: Fish & Agric. Res. Stn., DN Hof Hacarmel 30820, Dor, Israel] *Cyprinus carpio*
and *Hypophthalmichthys molitrix*.

89-001408 Klar, Gerald T.; Nick C. Parker and Cheryl A. Goudie. COMPARISON OF
GROWTH AMONG FAMILIES OF CHANNEL CATFISH. *Prog. Fish-Cult.* 50(3):173-178. 1988.
FR 34(2)
[U.S. Fish & Wildl. Serv., Southeast. Fish Cult. Lab., Rt. 3, Box 86, Marion, AL 36756]
Ictalurus punctatus.

89-001403 Knights, B. BODY DIMENSIONS OF FARMED EELS (*ANGUILLA ANGUILLA* L.)
IN RELATION TO CONDITION FACTOR, GRADING, SEX AND FEEDING. *Aquacult. Eng.*
1(4):297-310. 1982. FR 34(2)
[School Eng. & Sci., Polytechnic Cent. London, London W1M 8JS, England]

89-001410 Knights, B. EFFECTS OF AMMONIA ACCUMULATION ON METABOLIC RATES
AND GROWTH OF EUROPEAN EEL, *ANGUILLA ANGUILLA* L., IN RELATION TO
WARMWATER AQUACULTURE. *Aquacult. Fish. Manage.* 20(1):111-117. 1989. FR 34(2)
[Appl. Ecol. Res. Group, Polytech. Cent. London, 1:5 New Cavendish St., London W1M
8JS, England]

89-001411 Kohler, C. C. USE OF ETHANOL DISTILLERY BY-PRODUCTS IN
AQUACULTURE. *South. Ill. Univ. J./ENR/AE* 87/09. 58p. 1987. From U.S. Government
Reports 88(18):93. 1988. Available from NTIS as PB88-210463/GAR. FR 34(2)
Ictalurus punctatus and *Notemigonus crysoleucos*.

89-001414 Little, D.; M. Skladany and R. Rode. SMALL-SCALE HATCHERIES IN NORTH-EAST THAILAND. *Aquacult. Fish. Manage.* 18(1):15-31. 1987. FR 34(2)
[Div. Agric. & Food Eng., Asian Inst. Technol., G.P.O. Box 2754, Bangkok 10501, Thailand]

89-001415 Lovshin, L. L.; N. B. Schwartz; V. G. de Castillo; C. R. Engle and U. L. Hatch. COOPERATIVELY MANAGED PANAMANIAN RURAL FISH PONDS: THE INTEGRATED APPROACH. *Int. Cent. Aquacult. Res. Dev. Ser.* No. 33. 49p. 1986. From U.S. Government Reports 88(10):23. 1988. Available from NTIS as PB88-151758/GAR. FR 34(2)

89-001416 Lukowicz, M. V. INTENSIVE CARP *CYPRINUS CARPIO* (L.) REARING IN A FARM POND IN SOUTHERN GERMANY AND ITS EFFECTS ON WATER QUALITY. *Aquacult. Eng.* 1(2):121-137. 1982. FR 34(2)
[Bayerische Landesanstalt Fish., Weilheimer Str. 8a, 8130 Starnberg, West Germany]

89-001417 Manelpe, J. and C. Bry. [MANAGED NATURAL SPAWNING OF PIKE (*ESOCUS LUCIUS* L.) IN SMALL PONDS: ECONOMIC ASPECTS OF JUVENILE PRODUCTION.] *Bull. Fr. Peche Piscic.* 310(3):45-58. 1988. In French with English summ. FR 34(2)
[I.N.R.A., Lab. Genet. Poissons, 78350 Jouy-en-Josas, France]

89-001418 McGinty, Andrew S. and Dallas E. Alston. CULTURE OF ALL-MALE TILAPIA HYBRIDS WITH LOW DENSITIES OF *MACROBRACHIUM ROSENBERGII*. *Proc. Gulf Caribb. Fish. Inst.* 38:738. 1987. Abstract only. FR 34(2)
[Dep. Mar. Sci., Univ. Puerto Rico, Mayaguez 00708] *Tilapia nilotica* and *T. hornorum*.

89-001419 O'Grady, K. T. and P. B. Spillelt. POND AND TANK FEEDING TRIALS WITH CARP, *CYPRINUS CARPIO* L.: GROSS NUTRITION, CONVERSION EFFICIENCY AND COST EFFECTIVE DIETS. *Aquacult. Fish. Manage.* 18(1):73-93. 1987. FR 34(2)
[Water Res. Cent., Medmenham, P.O. Box 16, Marlow, Bucks SL7 2HD, England]

89-001420 Otubusin, Samuel Olu. HYBRIDIZATION TRIALS USING *OREOCHROMIS NILOTICUS* AND *SAROTHERODON GALILAEUS* IN FLOATING BAMBOO NET-HAPAS IN KAINJI LAKE BASIN, NIGERIA. *Aquaculture* 74(3/4):233-237. 1988. FR 34(2)
[Fish. Div., Kainji Lake Res. Inst., P.M.B. 6066, New Bussa, Kwara State, Nigeria]

89-001423 Siddiqui, A. Q.; M. S. Howlader and A. B. Adam. CULTURE OF NILE TILAPIA *OREOCHROMIS NILOTICUS* (L.), AT THREE STOCKING DENSITIES IN OUTDOOR CONCRETE TANKS USING DRAINAGE WATER. *Aquacult. Fish. Manage.* 20(1):49-57. 1989. FR 34(2)

[Fish Cult. Project, King Abdul-aziz City Sci. & Technol., P.O. Box 6096, Riyadh 11442 Saudi Arabia]

89-001424 Smith, Daniel Wilkins. PHYTOPLANKTON AND CATFISH CULTURE: A REVIEW. *Aquaculture* 74(3/4):167-189. 1988. FR 31(2)

[Lycott Environ. Res., Inc., 660 Charlton St., Southbridge, MA 01550]

89-001425 Turner, C. J. DETECTION OF STOCKING MORTALITY IN STRIPED BASS AND HYBRID STRIPED BASS CULTURE PONDS. *Prog. Fish-Cult.* 50(2):124-126. 1988. FR 34(2)

[Dep. Conserv. & Nat. Resour., Marion Fish Hatchery, Rt. 3, Box 85, Marion, AL 36756]
Morone saxatilis and *M. chrysops*.

89-001426 Zheng Wembiao; Pan Jionghua and Liu Wensheng. CULTURE OF CATFISH IN CHINA. *Aquaculture* 75(1/2):35-44. 1988. FR 34(2)

[Ichthyol. Lab., Dep. Biol., S. China Normal Univ., Guangzhou, China] *Clarias fuscus*, *C. batrachus*, and *C. lazera*.

89-001427 Zweig, Ronald D. EVOLVING WATER QUALITY IN A COMMON CARP AND BLUE TILAPIA HIGH PRODUCTION POND. *Hydrobiologia* 17(1):11-21. 1989. FR 34(2)

[EcoLogic, P.O. Box 1440, North Falmouth, MA 02556] *Tilapia aurea* and *Cyprinus carpio*.

MARICULTURE

89-001428 Adams, Gary and Stephen Spotte. CARBONATE MINERAL FILTRANTS WITH NE SURFACES REDUCE ALKALINITY IN SEAWATER AND ARTIFICIAL SEAWATER: PRELIMINARY FINDINGS. *Aquacult. Eng.* 4(4):305-311. 1985. FR 34(2)

[Mystic Marinelife Aquarium, Sea Res. Found. Inc., Mystic, CT 06355]

89-001429 Alvarez-Lajonchere, L. [THE DEVELOPMENT OF AQUACULTURE IN COASTAL AREAS, SPECIES SELECTION, AND MULLET (PISCES, MUGILIDAE) AS A GROUP TO INITIATE WORK IN CUBA.] *Rev. Cubana Invest. Pesq.* 8(1):1-41. 1983. In Spanish with English summ. FR 34(2)

[Cent. Invest. Mar., Univ. Havana, Havana, Cuba] *Mugil ilza* and *M. curema*.

89-001432 Bombeo-Tuburan, Isidra. THE EFFECT OF STUNTING ON GROWTH, SURVIVAL AND NET PRODUCTION OF MILKFISH (*CHANOS CHANOS* FORSSKAL). *Aquacult. Eng.* 75(1/2):97-103. 1989. FR 34(2)
[Aquacult. Dep., Southeast Asian Fish. Dev. Cent., Leganes Brackishwater S. Leganes, Iloilo, Philippines]

89-001433 Chang, Kun-Hsiung and Jen-Chyuan Lee. SYSTEMATIC APPROACH OF S FARMING IN PENGHU, TAIWAN, ROC. *Aquacult. Eng.* 5(2-4):253-270. 1986. FR 34(2)
[Inst. Zool., Acad. Sinica, Taipei, Taiwan 115]

89-001434 Condrey, Richard and Deborah Fuller. MAXIMIZING GROWTH AND GRO EFFICIENCY. *Proc. Gulf Caribb. Fish. Inst.* 38:203-209. 1987. FR 34(2)
[Coastal Fish. Inst., Cent. Wetland Resour., La. State Univ., Baton Rouge 70803-7503]

89-001435 Degani, Gad; Dan Levanon and Aharon Meltzer. INFLUENCE OF HIGH LOAD DENSITY ON GROWTH AND SURVIVAL OF EUROPEAN GLASS EELS. *Prog. Fish-C* 50(3):178-181. 1988. FR 34(2)
[MIGAL-Galilee Technol. Cent., Kiryat Shmona 12-000, Israel] *Anguilla anguilla*.

89-001436 Devauchelle, N. and T. Chopin. [PRESENTATION OF INCUBAT TECHNIQUES FOR EGGS OF PELAGIC SPECIES.] *Aquacult. Eng.* 1(3):227-233. 1982. French with English summ. FR 34(2)
[Cent. Oceanol. Bretagne, BP 337, 29273 Brest-Cedex, France]

89-001437 Dropsy, Blaise. [BIOTECHNIQUES OF CAGE CULTURE OF CERTAIN SPE OF TROPICAL FISH.] *Proc. Gulf Caribb. Fish. Inst.* 38:45-63. 1987. In French. FR 34(2)
[ADAM, B.P. 1018, 97208 Fort France Cedex, Martinique] *Ocyurus chrysurus*, *Lutjanus*, *Trachinotus goodei*, *T. laticatus*, and *Sciaenops ocellatus*.

89-001438 Edwards, Randy E. and Bruce D. Henderson. AN EXPERIMENTAL HATCH PROJECT: STUDIES OF PROPAGATION, CULTURE AND BIOLOGY OF SN (*CENTROPOMUS UNDECIMALIS*). *Proc. Gulf Caribb. Fish. Inst.* 38:211-221. 1987. FR 34(2)
[Rosenstiel School Mar. & Atmos. Sci., Univ. Miami, Miami, FL 33149]

89-001439 Gallet de Saint-Aurin, D. [PATHOLOGY OF *DICENTRARCHUS LABRAX* UNDER INTENSIVE CULTURE ON MARTINIQUE.] *Proc. Gulf Caribb. Fish. Inst.* 38:144-163. 1987. In French. FR 34(2)
[IFREMER, Pointe Fort, 97231 Le Robert, Martinique]

89-001452 Roberts, Daniel E., Jr. INDUCED MATURATION AND SPAWNING OF COMMON SNOOK, *CENTROPOMUS UNDECIMALIS*. *Proc. Gulf Caribb. Fish. Inst.* 38:222-230. 1987. FR 34(2).
[Dep. Nat. Resour., Div. Mar. Resour., Bur. Mar. Res., 100 Eighth Ave., S.E., St. Petersburg, FL 33701-5095]

89-001453 Saint-Gelais, Sylvain and Denis H. Larrievée. [CULTURE OF ATLANTIC SALMON (*SALMO SALAR*) IN THE ST. LAWRENCE ESTUARY.] *Aquacult. Eng.* 5(1):17-32. 1986. In French with English summ. FR 34(2)
[Dep. Sci. Fondamentales, Univ. Quebec, 555 Université Blvd., Chicoutimi, PQ, Canada G7H 2B1]

89-001454 Smith, Theodore I. J.; Paul A. Sandifer; Wallace E. Jenkins; J. Stephen Hopkins and Alvin D. Stokes. OVERVIEW OF FINFISH AQUACULTURE RESEARCH AT SOUTH CAROLINA'S MARINE RESOURCES RESEARCH INSTITUTE. *Proc. Gulf Caribb. Fish. Inst.* 38:173-189. 1987. FR 34(2)
[Wildl. & Mar. Resour. Dep., Mar. Resour. Res. Inst., P.O. Box 12559, Charleston, SC 29412]

89-001455 Twu, S. W.; R. C. Kao and H. H. Hwung. ON A WAVE DISSIPATION METHOD FOR OFFSHORE AQUACULTURE AREAS. *Aquacult. Eng.* 5(2-4):271-286. 1986. FR 34(2)
[Hydraulics & Ocean Eng. Dep. & Grad. School, Cheng-Kung Univ., Tainan, Taiwan]

89-001456 Weatherley, L. R. RATE MODELS FOR A MARINE BIOLOGICAL FILTER. *Aquacult. Eng.* 3(1):15-29. 1984. FR 34(2)
[Aquacult. Eng. Res. Group, Dep. Chem. & Process Eng., Heriot-Watt Univ., Edinburgh EH1 1HX, Scotland]

89-001457 Witt, U.; G. Quantz; D. Kuhlmann and G. Kattner. SURVIVAL AND GROWTH OF TURBOT LARVAE *SCOPHTHALMUS MAXIMUS* L. REARED ON DIFFERENT FOOD ORGANISMS WITH SPECIAL REGARD TO LONG-CHAIN POLYUNSATURATED FATTY ACIDS. *Aquacult. Eng.* 3(3):177-190. 1984. FR 34(2)
[Windebyer Weg 40, D-2330 Eckernförde, West Germany]

89-001458 Wurts, William A. and Robert R. Stickney. RESPONSES OF RED DRUM (*SCIAENOPS OCELLATUS*) TO CALCIUM AND MAGNESIUM CONCENTRATIONS IN FRESH AND SALT WATER. *Aquaculture* 76(1/2):21-35. 1989. FR 34(2)
[11710 Monica, Houston, TX 77024]

FEEDS, FEEDING, AND NUTRITION

89-001459 Bakır (Al-Hakkak), Hussain Mohammad. SENSORY CHARACTERISTICS AND LIPID COMPOSITION OF WHITE AMUR (*CTENOPHARYNGODON IDELLA*) FED DIFFERENT DIETS. *Ph.D. dissertation, Univ. Tenn.* 117p. 1987. From Diss. Abstr. Int. B Sci. Eng. 49(7):2434. 1989. Order No. DA8810342. FR 34(2)

89-001462 Gahm, Deibert M. H.; Harold P. Phillips and Eugene L. Fortans. EFFECTS OF VARIOUS LEVELS OF DIETARY COPPER AND ZINC ON CHANNEL CATFISH. *Aquaculture* 76(1/2):127-134. 1989. FR 34(2)

[Dep. Wildl. & Fish. Sci., Tex A&M Univ., College Station 77843-2258] *Ictalurus punctatus*.

89-001463 Kane, Thomas R. RELATIONSHIP OF TEMPERATURE AND TIME OF INITI FEEDING OF ATLANTIC SALMON. *Prog. Fish-Cult.* 50(2):93-97. 1988. FR 34(2)

[U.S. Fish & Wildl. Serv., Northeast Fish. Cent., Fish Technol. Cent., Lamar, PA 16801] *Salmo salar*.

89-001464 Kaushik, S. J.; P. Luquet; D. Blanc and A. Paba. STUDIES ON T NUTRITION OF SIBERIAN STURGEON, *ACIPENSER BAERI*. I. UTILIZATION OF DIGESTIBLE CARBOHYDRATES BY STURGEON. *Aquaculture* 76(1/2):97-107. 1989. FR 34(2)

[Lab. Nutr. Poissons, INRA, St. Pee-sur-Nivelle F-64310 Ascain, France]

89-001465 Krishnan, Nirupa and S. Ravichandra Reddy. COMBINED EFFECTS OF QUALITY AND QUANTITY OF FOOD ON GROWTH AND BODY COMPOSITION OF THE AIR-BREATHING FISH *CHANNA GACHUA* (HAM.). *Aquaculture* 76(1/2):79-96. 1989. FR 34(2)

[Dep. Zool., Bangalore Univ., Jnana Bharathi, Bangalore 560 056, India]

89-001466 Mearns, K. J. BEHAVIOURAL RESPONSES OF SALMONID FRY TO LOW AMINO ACID CONCENTRATIONS. *J. Fish Biol.* 34(2):223-232. 1989. FR 34(2)

[Div. Gen. Physiol., Dep. Biol., Univ. Oslo, P.O. Box 1051 Blindern, 0316 Oslo Norway] *Salmo salar* and *S. trutta*.

89-001467 Saheki, Kazuaki; Tamiko Hashimoto and Shigeru Shimamura. [DESTRUCTION OF SALMONELLAE IN THE COASTAL FISH MEALS BY DRY HEATING AND ETHYLENE OXIDE GAS FUMIGATION.] *Bull. Jpn. Soc. Sci. Fish.* 54(12):2099-2105. 1988. In Japanese with English summ. FR 34(2)

[Tokyo Univ. Fish., Konan, Minato, Tokyo 108, Japan]

89-001468 Saheki, Kazuaki; Kenjiro Konno; Takae Sato and Toshiharu Kawabata. [DECONTAMINATION OF SALMONELLA FROM THE COASTAL FISH MEALS BY ⁶⁰Co γ R IRRADIATION.] *Bull. Jpn. Soc. Sci. Fish.* 54(12):2107-2112. 1988. In Japanese with English summ. FR 34(2)

[Tokyo Univ. Fish., Konan, Minato, Tokyo 108, Japan]

89-001470 Tackett, Dewey L.; Ray R. Carter and Ken O. Allen. DAILY VARIATION IN FEED CONSUMPTION BY CHANNEL CATFISH. *Prog. Fish-Cult.* 50(2):107-110. 1988. FR 34(2)
[U.S. Fish & Wildl. Serv., Fish Farming Exp. Stn., P.O. Box 860, Stuttgart, AR 72160]
Ictalurus punctatus.

89-001471 Tucker, John W., Jr.; Malcolm R. MacKinnon; D. John Russell; Julian J. O'Brien and Emanuella Cazzola. GROWTH OF JUVENILE BARRAMUNDI (LATE CALCARIFER) ON DRY FEEDS. *Prog. Fish-Cult.* 50(2):81-85. 1988. FR 34(2)
[Harbor Branch Oceanogr. Inst., 5600 Old Dixie Hwy., Fort Pierce, FL 34946]

89-001472 Viola, S.; S. Mokady; D. Behar and U. Cogan. EFFECTS OF POLYUNSATURATED FATTY ACIDS IN FEEDS OF TILAPIA AND CARP. I. BODY COMPOSITION AND FATTY ACID PROFILES AT DIFFERENT ENVIRONMENTAL TEMPERATURES. *Aquaculture* 75(1/2):127-137. 1988. FR 34(2)
[Exp. Stn. Intensive Fish Cult., P.O.B. 33, Tiberias, Israel] *Cyprinus carpio*, *Tilapia aurea*, and *T. nilotica*.

89-001473 Viola, S.; Y. Arieli and G. Zohar. ANIMAL-PROTEIN-FREE FEEDS FOR HYBRID TILAPIA (*Oreochromis niloticus* x *O. aureus*) IN INTENSIVE CULTURE. *Aquaculture* 75(1/2):115-125. 1988. FR 34(2)
[Israeli Feedmills Assoc., Miloubar Cent. Feedmill, D.N. Ashrat 25201, Israel]

TRANSPORTING FISH

89-001474 Carmichael, Gary J. and J. R. Tomasso. SURVEY OF FISH TRANSPORTATION EQUIPMENT AND TECHNIQUES. *Prog. Fish-Cult.* 50(3):155-159. 1988. FR 34(2)
[U.S. Dep. Agric., Catfish Genet. Res. Unit, P.O. Box 38, Stoneville, MS 38776]
Oncorhynchus mykiss, *Ictalurus punctatus*, *Micropterus salmoides*, *Stizostedion vitreum*, and *Lepomis macrochirus*.

89-001475 Lemarie, Gilles. [OCEAN PERCH CAGE CULTURE. HANDLING AND TRANSPORT, WHAT ARE THE PRECAUTIONS TO TAKE?] *Equinoxe* No. 20. p. 21-23. 1988. In French. FR 34(2)
Sebastes marinus.

89-001476 Lemarie, Gilles and Jean-Paul Blancheton. [TRANSPORT TECHNIQUES FOR OCEAN PERCH FINGERLINGS (50/60g).] *Equinoxe* No. 20. p. 24. 1988. In French. FR 34(2)
Sebastes marinus.

AQUARIUMS

89-001477 Edmonds, Les. GROUPERS. *Trop. Fish Hobbyist* 37(2):86-91. 1988. FR 34(2)

89-001481 Palicka, Jiri. BREEDING BECKFORD'S PENCILFISH, *NANNOSTOMUS BECKFORDI*. *Trop. Fish Hobbyist* 37(4):10-12, 14. 1989. FR 34(2)

89-001482 Palicka, Jiri. *DASYLORICARIA FILAMENTOSA*. *Trop. Fish Hobbyist* 37(2):24. 1989. FR 34(2)

89-001483 Stratton, Richard F. THE TOMATO CLOWNFISH. *Trop. Fish Hobbyist* 37(6):52. 1989. FR 34(2)
Amphiprion frenatus.

89-001484 Stratton, Richard F. THE BICOLOR ANGEL. *Trop. Fish Hobbyist* 37(6):49. 1989. FR 34(2)
Centropyge bicolor.

89-001485 Winston, Matthew R. CULTURING LARVAL GIZZARD SHAD IN LABORATORY AQUARIA. *Prog. Fish-Cult.* 50(2):118-119. 1988. FR 34(2)
[Dep. Fish. & Wildl. Sci., N.M. State Univ., P.O. Box 4901, Las Cruces 88003] *Dorosoma cepedianum*.

89-001486 Wischnath, Lothar. WILD MEXICANS. *Trop. Fish Hobbyist* 37(6):22-23. 1989. FR 34(2)
Poecilia mexicana, *Xiphophorus clemenciae*, *X. evelynae*, *Heterandria jonesi*, *Prionogobius intermedius*, and *P. compressa*.

MISCELLANEOUS CULTURE TECHNIQUES AND EQUIPMENT

89-001487 Appelbaum, S. and S. Horwitz. A TECHNIQUE FOR MAINTAINING WATER QUALITY IN FISH TANKS CONTAINING EELS AND FISH LARVAE. *Aquacult. Fish. Manag.* 20(1):107-110. 1989. FR 34(2)
[Jacob Blaustein Inst. Desert Res., Ben-Gurion Univ. Negev, Sede Boqer Campus, Israel] *Tilapia aurea*, *Anguilla anguilla*, *Cyprinus carpio*, and *Clarias gariepinus*.

89-001488 Chapman, Duane C.; U. Thomas Jackson and Wayne A. Hubert. METHOD FOR SEPARATING NORMAL STRIPED BASS LARVAE FROM THOSE WITH UNINFLATED BLADDERS. *Prog. Fish-Cult.* 50(3):166-169. 1988. FR 34(2)
[Nat. Fish. Contaminant Res. Cent. Field Stn., Corpus Christi State Univ., Box 6300 Ocean Dr., Corpus Christi, TX 78412] *Morone saxatilis*.

83-14491 Hennen, John M. and Michael J. Murphy. LAY-FLAT PLASTIC TUBING TO PREVENT SOIL EROSION DURING POND FILLING. *Prog. Fish-Cult.* 50(2):128. 1988. FR 34(2)

[Miss. State Univ., Dep. Wildl. & Fish., P.O. Drawer LW, Mississippi State 39762]

83-14492 Joyce, Timothy L. and Kit Rawson. ACCURACY AND PRECISION OF COUNTING EGGED EGGS WITH AN ELECTRONIC FISH COUNTER. *Prog. Fish-Cult.* 50(2):113-115. 1988. FR 34(2)

[Gen. Fish & Game, Div. Fish. Rehabilitation, Enhancement, & Dev., P.O. Box 3-2000, Sucre, AR 92802] *Oncorhynchus gorbuscha* and *O. kisutch*.

83-14493 Krise, William F. OPTIMUM PROTEASE EXPOSURE TIME FOR REMOVING ACIDNESS OF WALLEYE EGGS. *Prog. Fish-Cult.* 50(2):126-127. 1988. FR 34(2)

[U.S. Fish & Wildl. Serv., Natl. Fish. Res. & Dev. Lab., Rural Delivery 4, Box 63, Westford, PA 16301] *Stizostedion vitreum*.

83-14494 Manjoor Ali, P. K. M. and G. P. Satyanarayana Rao. GROWTH IMPROVEMENT IN CARP, *CYPRINUS CARPIO* (LINNAEUS), STERILIZED WITH 17 α -METHYLTTESTOSTERONE. *Aquaculture* 76(1/2):157-167. 1989. FR 34(2)

[Univ. Agric. Sci., Coll. Fish., Mangalore 575 002, India]

83-14495 McAllister, P. E. and G. A. Wilson. TREATMENT OF FISH EGGS BY INJECTION OF CHEMICALS INTO THE INCUBATOR WATER SUPPLY. *Prog. Fish-Cult.* 50(2):116-117. 1988. FR 34(2)

[U.S. Fish & Wildl. Serv., Natl. Fish Health Res. Lab., Box 700, Kearneysville, WV 26143]

83-14496 Nagai, T. [A VACUUM CLEANER FOR SALMON REARING POND.] *Tech. Rep. Hokkaido Salmon Hatchery* No. 157 p. 63-66. 1988. In Japanese. FR 34(2)

83-14497 Pallen, Michael H. and William M. Lewis. USE OF OZONE AND FLUIDIZED-BED BIOFILTERS FOR INCREASED AMMONIA REMOVAL AND FISH LOADING RATES. *Prog. Fish-Cult.* 50(3):141-147. 1989. FR 34(2)

[Environ. & Chem. Sci. Inc., P.O. Box 1393, Aiken, SC 29802]

GENERAL LIMNOLOGY AND OCEANOGRAPHY

83-14498 Basterrechea Diaz, Manuel. [A PRELIMINARY LIMNOLOGICAL ASSESSMENT OF 32 LAGOONS OF GUATEMALA.] *Rev. Biol. Trop.* 36(1):115-122. 1988. In Spanish with English summary. FR 34(2)

89-001500 Benndorf, Jurgen. OBJECTIVES AND UNSOLVED PROBLEMS IN ECOTECHNOLOGY AND BIOMANIPULATION: A PREFACE. *Limnologica* 19(1):5-8. 1988. FR 34(2)

89-001501 Benndorf, Jurgen, editor. BIOMANIPULATION: XXIVth CONGRESS OF THE INTERNATIONAL ASSOCIATION OF THEORETICAL AND APPLIED LIMNOLOGY. (AUGUST 13-19; MUNICH, FRG). *Limnologica* 19(1) 116p. 1988. FR 34(2)

89-001502 De Haan, H.; H. L. Hoogveld; T. De Boer; J. Voerman; J. R. Moed; H. A. Kramer and J. Schrootenboer. MANIPULATION OF CHEMISTRY AND PHYTOPLANKTON BY HYDROLOGICAL INTERVENTION: A WHOLE LAKE EXPERIMENT IN THE NORTHERN NETHERLANDS. *Freshwater Biol.* 20(3):395-406. 1989. FR 34(2)
[Limnol. Inst., Tjeukemeer Lab., De Akkers 47, 8536 VO Oosterzee, Netherlands]

89-001503 Lampert, Winfried. THE RELATIONSHIP BETWEEN ZOOPLANKTON BIOMASS AND GRAZING: A REVIEW. *Limnologica* 19(1):11-20. 1988. In English with German summ. FR 34(2)
[Abt. Okophysiol., Max-Planck-Inst. Limnol., Postfach 165, D-2320 Plön, West Germany]

89-001504 Muench, R. D.; P. R. Temple; J. T. Gunn and L. E. Hachmeister. COASTAL OCEANOGRAPHY OF THE NORTHEASTERN GULF OF ALASKA. *Natl. Ocean Serv.* 143p. 1982. From U.S. Government Reports 87(20):147. 1987. Available from NTIS as PB87-198925/GAR. FR 34(2)

PHYSICAL LIMNOLOGY AND OCEANOGRAPHY

89-001505 Alcocer R., Cecilia and Rolando Kelly J. [ENVIRONMENTAL VARIABILITY AND ITS INCIDENCE ON PHYSIOLOGICAL ASPECTS OF CHILEAN PILCHARD (*SARDINOP. SAGAX*) OF THE NORTHERN STOCK OF CHILE.] *Invest. Pesq.* 34:57-63. 1987. In Spanish with English summ. FR 34(2)
[Inst. Fomento Pesquero, Casilla 1287, Santiago, Chile]

89-001506 Fonseca, Tomas R. and Martin Farias. [STUDY OF UPWELLING PROCESSES IN THE CHILEAN COAST USING REMOTE SENSING.] *Invest. Pesq.* 34:33-46. 1987. In Spanish with English summ. FR 34(2)
[Ingomar Ltda., Casilla 1443, Valparaiso, Chile]

89-001507 Jones, S. R. MINISTRY OF AGRICULTURE, FISHERIES AND FOOD, CURRENT METER DATA INVENTORY, 1984-86. *Fish. Res. Tech. Rep. MAFF Dir. Fish. Res. No.* 88. 19p. 1988. FR 34(2)

89-001508 Smith, Peter C. and Helmut Sandstrom. PHYSICAL PROCESSES AT THE SHE
EDGE IN THE NORTHWEST ATLANTIC. *J. Northwest Atl. Fish. Sci.* 8:5-13. 1988. FR 34(2)
[Physical & Chem. Sci. Branch, Dep. Fish. & Oceans, Bedford Inst. Oceanogr.
Dartmouth, NS, Canada B2Y 4A2]

89-001509 Winter, Thomas C. HYDROLOGIC STUDIES OF WETLANDS IN THE NORTHERN
PRAIRIE. In: *Northern Prairie Wetlands*. Arnold van der Valk, editor. p. 16-54. 1989. 1
34(2)
[U.S. Geol. Surv., Denver, CO 80225]

CHEMICAL LIMNOLOGY AND OCEANOGRAPHY

89-001510 Dalziel, T. R. K.; M. V. Proctor and A. Dickson. HYDROCHEMICAL BUDGET
CALCULATIONS FOR PARTS OF THE LOCH FLEET CATCHMENT BEFORE AND AFTER
WATERSHED LIMING. *Water Air Soil Pollut.* 41(1-4):417-434. 1988. FR 34(2)
[Cent. Electric. Res. Lab., Kelvin Ave., Leatherhead, Surrey KT22 7SE, England]

89-001511 Feist, Timothy James. THE LIMNOLOGY OF SESSIONS LAKE, IONIA COUNTY
MICHIGAN. M.S. thesis, Mich. State Univ. 61p. 1988. From Masters Abstr. Int. 27(1):7
1989. Order No. MA1334440. FR 34(2)

89-001512 LaBaugh, James W. CHEMICAL CHARACTERISTICS OF WATER IN NORTHERN
PRAIRIE WETLANDS. In: *Northern Prairie Wetlands*. Arnold van der Valk, editor. p. 56-90
1989. FR 34(2)
[U.S. Geol. Surv., Denver, CO 80225]

89-001513 McFarland, Mel A. and Dale W. Toetz. NITROGEN FIXATION (ACETYLENE
REDUCTION) IN LAKE HEFNER, OKLAHOMA. *Arch. Hydrobiol.* 114(2):213-230. 1988. FR
34(2)
[3914 N. Barnes, Oklahoma City, OK 73112]

89-001514 Mee, Laurence D. A DEFINITION OF "CRITICAL EUTROPHICATION" IN THE
MARINE ENVIRONMENT. *Rev. Biol. Trop.* 36(1):159-161. 1988. In English with Spanish
summ. FR 34(2)
[Int. Lab. Mar. Radioactiv., Oceanogr. Mus., Monaco-Ville 98000, Monaco]

89-001515 Shaffer, Paul W. and M. Robbins Church. TERRESTRIAL AND IN-LAKE
CONTRIBUTIONS TO ALKALINITY BUDGETS OF DRAINAGE LAKES: AN ASSESSMENT OF
REGIONAL DIFFERENCES. *Can. J. Fish. Aquat. Sci.* 46(3):509-515. 1989. In English with
French summ. FR 34(2)
[N.S.I. Technol. Serv. Corp., 200 SW 35th St., Corvallis, OR 97333]

89-001516 Windom, Herbert L.; Steven J. Schropp; Fred D. Calder; Joseph D. Ryan;
Ralph G. Smith, Jr.; Louis C. Burney; Frank G. Lewis and Charles H. Rawlinson.
NATURAL TRACE METAL CONCENTRATIONS IN ESTUARINE AND COASTAL MARINE
SEDIMENTS OF THE SOUTHEASTERN UNITED STATES. *Environ. Sci. Technol.* 23(3):314-
320. 1989. FR 34(2)
[Skidaway Inst. Oceanogr., P.O. Box 13687, Savannah, GA 31416]

89-001518 Guzman, Hector M. and Vilma L. Obando. [DIVERSITY, AND DAILY AND SEASONAL ABUNDANCE OF THE MARINE ZOOPLANKTON OF ISLA DEL CANO, COSTA RICA.] *Rev. Biol. Trop.* 36(1):139-150. 1988. In Spanish with English summ. FR 34(2)
[Smithson. Trop. Res. Inst., Apdo. 2072, Balboa, Panama]

89-001519 Morris, Donald P. and William M. Lewis, Jr. PHYTOPLANKTON NUTRIENT LIMITATION IN COLORADO MOUNTAIN LAKES. *Freshwater Biol.* 20(3):315-327. 1988. FR 34(2)
[Cent. Limnol., D.E.P.O.B., Univ. Colo., Boulder 80309-0334]

MORPHOLOGY

89-001520 Alfei, L.; G. Bertencello; E. Gelosi and F. Parvopassu. A MORPHOMETRIC ANALYSIS OF THE SPINAL MOTOR POOL IN RELATION TO ITS TARGET MUSCLE DURING GROWTH IN THE TROUT, *SALMO GAIARDNERI* RICHARDSON. *J. Fish Biol.* 34(1):65-78. 1989. FR 34(2)
[Dep. Biol. Anim. & dell'Uomo, Univ. Roma I, via Borelli 50, 00161 Rome, Italy]

89-001521 Allue, R. [SEVERAL TERATOLOGICAL CASES IN BONY FISHES OF THE WESTERN MEDITERRANEAN.] *Rev. Cienc. Mar Thalassas* 2(1):99-102. 1984. In Spanish with English summ. FR 34(2)
[Inst. Invest. Pesq. Barcelona, Paseo Mar., s/n-08003-Barcelona-3, Spain] *Mullus surmuletus*, *Pagellus erythrinus*, and *Trisopterus minutus capelanus*.

89-001522 Appelt, Donah; Barbara Block and C. Franzini-Armstrong. STRUCTURE OF THE TOADFISH SWIMBLADDER MUSCLES REEXAMINED: MALES AND FEMALES MUST PLAY A DIFFERENT TUNE. *Am. Zool.* 28(4):42A. 1988. Abstract only. FR 34(2)
[Dep. Biol. & Anat., Univ. Pa., Philadelphia 19104] *Opsanus tau*.

89-001523 Barus, Vlastimil and Jiri Libosvsky. OBSERVATIONS ON *GLARIDICHTHYUS UNINOTATUS* AND *G. FALCATUS* (POECILIIDAE) FROM CUBA. *Folia Zool.* 37(2):167-182. 1988. In English with Russian summ. FR 34(2)
[Inst. Syst. & Ecol. Biol., CSAV, Kvetna 8, 603 65 Brno, Czechoslovakia]

89-001524 Bellwood, David R. THE JUVENILE COLOUR PATTERNS OF TWO *SCARUS* SPECIES FROM THE WESTERN PACIFIC: *S. PRASIOGNATHOS* AND *S. TRICOLOR* (PISCES SCARIDAE). *J. Nat. Hist.* 22(6):1677-1682. 1988. FR 34(2)
[Dep. Mar. Biol., James Cook Univ., Townsville, Qld. 4811, Australia]

89-001536 Reperant, Jacques; Nicolas P. Vesselkin; Natacha B. Kenigset; Jean-Paul Rio, Oleg V. Shupliakov and Jacqueline Pierre. [DEMONSTRATION OF CENTRIFUGAL FIBRES IN THE RETINA OF THE LAMPREY (*LAMPETRA FLUVIATILIS*).] *C.R. Acad. Sci. Ser. III Sci. Vie* 309(6):171-176. 1989. In French with English summ. FR 34(2)

[Lab. Neuromorphol., I.N.S.E.R.M., U106, Batiment Pédiatrie, Hôpital Salpêtrière, 75013 Paris, France]

89-001567 Reznick, David; Eric Lindbeck and Heather Bryga. SLOWER GROWTH RESULTS IN LARGER OTOLITHS: AN EXPERIMENTAL TEST WITH GUPPIES (*POECILIA RETICULATA*). *Can. J. Fish. Aquat. Sci.* 46(1):108-112. 1989. In English with French summ. FR 34(2)

[Dep. Biol., Univ. Calif., Riverside 92521]

89-001568 Sanford, C. P. J. and G. V. Lauder. FUNCTIONAL MORPHOLOGY OF THE TONGUE-BITE IN *NOTOPTERUS* (OSTEOGLOSSOMORPHA). *Am. Zool.* 28(4):115A. 1988. Abstract only. FR 34(2)

[Univ. Calif., Irvine]

89-001569 Sanger, Alexandra; Helgard Claassen and Hans Adam. THE ARRANGEMENT OF MUSCLE FIBER TYPES IN THE AXIAL MUSCLE OF VARIOUS CYPRINIDS (TELEOSTEI). *Zool. Anz.* 221(1/2):44-49. 1988. FR 34(2)

[Zool. Inst., Univ. Salzburg, Hellbrunner Str. 34, A-5020 Salzburg, Austria] Data for 14 species.

89-001570 Savvaitova, K. A.; V. A. Maximov and V. V. Volobuyev. [ON THE RELATIONS BETWEEN ANADROMOUS FORMS OF CHARRS OF THE GENUS *SALVELINUS* (SALMONIDAE, SALMONIFORMES) AT THE CHUKOT PENINSULA.] *Zool. Zh.* 67(10):1498-1508. 1988. In Russian with English summ. FR 34(2)

[Biol. Fac., Moscow State Univ., Moscow, USSR] *S. malma* and *S. taranetzii*.

89-001571 Secor, David H. and John Mark Dean. SOMATIC GROWTH EFFECTS ON THE OTOLITH - FISH SIZE RELATIONSHIPS IN YOUNG POND-REARED STRIPED BASS, *MORONE SAXATILIS*. *Can. J. Fish. Aquat. Sci.* 46(1):113-121. 1989. In English with French summ. FR 34(2)

[Belle W. Baruch Inst. Mar. Biol. & Coastal Res., Mar. Sci. Program & Dep. Biol., Univ. S.C., Columbia 29208]

89-001572 Sourdain, Pascal and Bernard Jegou. DISSOCIATION AND IDENTIFICATION OF INTACT SEMINIFEROUS LOBULES FROM THE TESTIS OF THE DOGFISH (*SCYLIORHINUS CANICULA*). *Cell Tissue Res.* 255(1):199-207. 1989. FR 34(2)

[Univ. Rennes I, Lab. Biol. Reprod. URA, CNRS 95, Campus Beaulieu, F-35042 Rennes Cedex, France]

89-001573 Unwin, N. and C. Toyoshima. THREE-DIMENSIONAL STRUCTURE OF THE ACETYLCHOLINE RECEPTOR. *Biol. Bull. (Woods Hole)* 175(3):445. 1988. Abstract only. FR 34(2)

89-001574 Wainwright, Peter C. PREY PROCESSING IN HAEMULID FISHES. PATTERNS OF VARIATION IN PHARYNGEAL JAW MUSCLE ACTIVITY. *J. Exp. Biol.* 141:353-375. 1989. FR 34(2)

[Dep. Dev. & Cell Biol., Univ. Calif., Irvine 92717] *Anisotremus virginicus*, *Haemulon plumieri*, *H. sciurus*, and *H. aurolineatum*.

89-001575 Warburton, Kevin. ECOLOGICAL AND PHYLOGENETIC CONSTRAINTS ON BODY SIZE IN INDO-PACIFIC FISHES. *Environ. Biol. Fishes* 24(1):13-22. 1989. FR 34(2)

[Dep. Zool., Univ. Queensland, St. Lucia, Qld. 4067, Australia]

89-001576 Webb, J. F. ASYMMETRY AND POLYMORPHISM IN THE LATERAL LINE SYSTEM OF THE DEEP-WATER FLATFISH, *GLYPTOCEPHALUS ZACHWYUS*. *Am. Zool.* 29(4):699-1988. Abstract only. FR 34(2)

[Univ. Calif., San Diego, La Jolla]

89-001577 Westneat, M. W. KINEMATICS OF JAW PROTRUSION IN CHEILINE WRASSES (LABRIDAE): TESTING A FOUR BAR LINKAGE MODEL. *Am. Zool.* 29(4):114A. 1989. Abstract only. FR 34(2)

[Duke Univ., Durham, NC 27706]

89-001578 Yang, Mei-Sun. MORPHOLOGICAL DIFFERENCES BETWEEN TWO CONGENERIC SPECIES OF PLEURONECTID FLATFISHES. ARROWTOOTH FLOUNDER, *ATHERESTH. STOMIAS*, AND KAMCHATKA FLOUNDER, *A. EVERMANNI*. *U.S. Natl. Mar. Fish Serv. Fish. Bull.* 86(3):608-611. 1988. FR 34(2)

[Northwest & Alaska Fish. Cent., NMFS, NOAA, 7600 Sand Point Way NE, Seattle, WA 98115-0070]

PHYSIOLOGY

89-001579 Adamczyk, D. L.; J. M. P. Joss and R. M. Doros. CHARACTERIZATION OF ACTH-RELATED PRODUCTS FROM THE PITUITARY OF THE AUSTRALIAN LUNGFIN *NEOCERATODUS FORSTERI*. *Am. Zool.* 28(4):119A. 1988. Abstract only. FR 34(2)

[Univ. Denver, Denver, CO]

89-001580 Aida, Katsumi. A REVIEW OF PLASMA HORMONE CHANGES DURING OVULATION IN CYPRINID FISHES. *Aquaculture* 74(1/2):11-21. 1988. FR 34(2)

[Dep. Fish., Fac. Agric., Univ. Tokyo, Bunkyo, Japan] *Acheilognathus rhombus*, *Cyprinus carpio*, and *Carassius auratus*.

89-001581 Alabaster, J. S. THE DISSOLVED OXYGEN AND TEMPERATURE REQUIREMENTS OF KING SALMON, *ONCORHYNCHUS Tshawytscha*, IN THE SAN JOAQUIN DELTA, CALIFORNIA. *J. Fish Biol.* 34(2):331-332. 1989. FR 34(2)

[1 Granby Rd., Stevenage, Herts SG1 4AR, England]

89-001582 Albertini-Berhaut, Jocelyne. [THE INTESTINES OF THE MUGILIDAE (PISCIFORMES, TELEOSTEI) AT DIFFERENT GROWTH STAGES. II. ULTRASTRUCTURAL AND CYTOPHYSIOLOGICAL ASPECTS.] *J. Appl. Ichthyol.* 4(2):65-78. 1988. In

34(2)
[Al-Hassan: Dep. Biochem., Fac. Sci., Kuwait Univ., P.O. Box 5969, 13060-S, Kuwait] *Arius bilineatus*, *A. tenuispinis*, and *A. thalassinus*.

89-001584 Almendras, J. M.; Corazon Duenas; Jonathan Nacano; Nancy M. Sherwood Laurence W. Crim. SUSTAINED HORMONE RELEASE. III. USE OF GONADOTROPIN-RELEASING HORMONE ANALOGUES TO INDUCE MULTIPLE SPAWNING IN SEA BASS, *LATEX CALCARIFER*. *Aquaculture* 74(1/2):97-111, 1988. FR 34(2)

[Aquacult. Dep., Southeast Asian Fish. Dev. Cent., Tigbauan, Iloilo 5829, Philippines]

89-001585 Andersen, Oivind; Venke Skibeli and Kaare M. Gautvik. PURIFICATION AND CHARACTERIZATION OF ATLANTIC SALMON PROLACTIN. *Gen. Comp. Endocrinol.* 73(3):354-360, 1989. FR 34(2)

[Inst. Med. Biochem., Univ. Oslo, Box 112 Blindern, N-0317 Oslo 3, Norway] *S. salar*.

89-001586 Andersson, E.; I. Mayer and B. Borg. INHIBITORY EFFECT OF KETOANDROSTENEDIONE AND ANDROSTENEDIONE ON SPERMATOGENESIS IN THE THIN SPINED STICKLEBACK, *GASTEROSTEUS ACULEATUS* L. *J. Fish Biol.* 33(6):835-840, 1988. FR 34(2)

[Dep. Zool., Univ. Stockholm, S-106 91 Stockholm, Sweden]

89-001587 Andersson, E.; B. Borg and J. G. D. Lambert. AROMATASE ACTIVITY IN BRAIN AND PITUITARY OF IMMATURE AND MATURE ATLANTIC SALMON (*SALMO SALAR* L.) PARR. *Gen. Comp. Endocrinol.* 72(3):394-401, 1988. FR 34(2)

[Dep. Zool., Univ. Stockholm, S-106 91, Stockholm, Sweden]

89-001588 Aranis R., Antonio and Alfredo Torres G. [A CASE OF HERMAPHRODITISM IN THE SARDINE (*SARDINOPS SAGAX* JENYNS, 1842) (PISCES, CLUPEIFORMES, CLUPEIDAE).] *Invest. Pesq.* 34:149-153, 1987. In Spanish with English summ. FR 34(2)

[Inst. Fomento Pesquero, Casilla 1287, Santiago, Chile]

89-001589 Axelsson, Michael and Stefan Nilsson. BLOOD PRESSURE CONTROL DURING EXERCISE IN THE ATLANTIC COD, *GADUS MORHUA*. *J. Exp. Biol.* 126:225-236, 1986. FR 34(2)

[Comp. Neurosci. Unit, Dep. Zoophysiol., Univ. Goteborg, P.O. Box 250 59, S-400 31 Goteborg, Sweden]

89-001590 Bacila, Metry; Rubens Rosa; Edson Rodrigues; Pedro Helio Lucchiarini Claudete Deguirmendjan Rosa. TISSUE METABOLISM OF THE ICE-FISH *CHAENOCEPHALUS ACERATUS* LOENBERG. *Comp. Biochem. Physiol.*

89-001592 Barnabe, Gilbert. [INDUCED REPRODUCTION BY MANIPULATION OF ENVIRONMENTAL FACTORS AND HORMONES IN *DICENTRARCHUS LABRAX* OF MARTINIQUE.] *Proc. Gulf Caribb. Fish. Inst.* 38:79-85. 1987. In French. FR 34(2)
[Aquamar S.A., Pointe-Lynche, 97231 Le Robert, Martinique]

89-001593 Barry, T. P.; K. Aida and I. Hanyu. THE MECHANISM CONTROLLING THE SHIFT FROM TESTICULAR ANDROGEN TO PROGESTOGEN PRODUCTION DURING SPAWNING IN MALE COMMON CARP (*CYPRINUS CARPIO*). *Am. Zool.* 28(4):53A. 1988
Abstract only. FR 34(2)
[Univ. Hawaii, Honolulu 96822]

89-001594 Basaglia, Fulvia. SOME ASPECTS OF ISOZYMES OF LACTATE DEHYDROGENASE, MALATE DEHYDROGENASE AND GLUCOSEPHOSPHATE ISOMERASE IN FISH. *Comp. Biochem. Physiol. B Comp. Biochem.* 92(2):213-226. 1989. FR 34(2)
[Ist. Anat. Comp., Fac. Sci., Univ. Studi Ferrara, via Luigi Borsari 46, 44100 Ferrara Italy] Data for 59 species.

89-001595 Basavaraja, N. and G. P. Satyanarayana Rao. INDUCTION OF STERILITY IN THE COMMON CARP, *CYPRINUS CARPIO* (LINN.) USING 17 α -METHYLTESTOSTERONE. *Indian J. Anim. Sci.* 58(10):1248-1251. 1988. FR 34(2)
[Univ. Agric. Sci., Coll. Fish., Mangalore, Karnataka 575 002, India]

89-001596 Beamish, F. W. H.; J. C. Howlett and T. E. Medland. IMPACT OF DIET ON METABOLISM AND SWIMMING PERFORMANCE IN JUVENILE LAKE TROUT, *SALVELINUS MAYAYCUSH*. *Can. J. Fish. Aquat. Sci.* 46(3):384-388. 1989. In English with French summary. FR 34(2)
[Dep. Zool. & Group Adv. Fish Studies, Univ. Guelph, Guelph, ON, Canada N1G 2W1]

89-001597 Bennett, Richard O. and Richard C. Rhodes III. EVALUATION OF ORAL ADMINISTRATION OF CORTISOL AND METYRAPONE: THE EFFECTS ON SERUM CORTISOL IN RAINBOW TROUT (*SALMO GAIRDNERI*). *Comp. Biochem. Physiol. A Comp. Physiol.* 83(4):727-730. 1986. FR 34(2)
[Dep. Fish Aquacult. & Pathol., Univ. R.I., Kingston 02881-0804]

89-001598 Bentrivegna, F. and F. Benedetto. GONOCORISM AND SEASONAL VARIATION IN THE GONADS OF THE LABRID *SYMPHODUS (CRENILABRUS) OCELLATUS* (FORSSKAL). *J. Fish Biol.* 34(3):343-348. 1989. FR 34(2)
[Stn. Zool. 'A. Dohrn' Napoli, Villa Comunale, 80121 Naples, Italy]

Ph.D. dissertation, Univ. Cincinnati. Rep. 14501. From: *Abstr. Int. S. West. Eng.*
49(8):3037. 1989. Order No. OA8822813. FR 34(2)
Pseudopleuronectes americanus.

89-001601 Bjønning, Christina; William Driedzic and Susanne Holmgren. NEUROPEPTIDE Y-
LIKE IMMUNOREACTIVITY IN THE CARDIOVASCULAR NERVE PLEXUS OF THE
ELASMOBRANCHS *RAJA ERINACEA* AND *RAJA RADIATA*. *Cell Tissue Res.* 255(3):481-486.
1989. FR 34(2)

[Comp. Neurosci. Unit, Dep. Zoophysiol., Univ. Göteborg, Box 250 59, S-400 31,
Göteborg, Sweden]

89-001602 Bolla, Sylvie and Ivar Holmefjord. EFFECT OF TEMPERATURE AND LIGHT ON
DEVELOPMENT OF ATLANTIC HALIBUT LARVAE. *Aquaculture* 74(3/4):355-358. 1988. FR
34(2)

[SINTEF, Cent. Aquacult., 7034 Trondheim-NTH, Norway]

89-001603 Borg, B.; W. G. E. J. Schoonen and J. G. D. Lambert. STEROID METABOLISM
IN THE TESTES OF THE BREEDING AND NONBREEDING THREE-SPINED STICKLEBACK,
CASTEROSTEUS ACULEATUS. *Gen. Comp. Endocrinol.* 73(1):40-45. 1989. FR 34(2)

[Dep. Zool., Univ. Stockholm, S-106 91 Stockholm, Sweden]

89-001604 Borowsky, R. OXYGEN GRADIENTS, GENETIC VARIATION IN METABOLIC
RATE AND HABITAT CHOICE IN THE FISH *XIPHOPHORUS VARIATUS*. *Am. Zool.* 28(4):6A.
1988. Abstract only. FR 34(2)

[New York Univ., New York, NY]

89-001605 Borski, R. J.; L. M. H. Helms and E. G. Grau. POSSIBLE ROLES OF cAMP AND
CA⁺⁺ IN MEDIATING THE INHIBITION OF PROLACTIN RELEASE BY CORTISOL IN THE
TILAPIA, *OREOCHROMIS MOSSAMBICUS*. *Am. Zool.* 28(4):121A. 1988. Abstract only. FR
34(2)

[Univ. Hawaii, Honolulu 96822]

89-001606 Bradley, James T. and John M. Grizzle. VITELLOGENIN INDUCTION BY
ESTRADIOL IN CHANNEL CATFISH, *ICTALURUS PUNCTATUS*. *Gen. Comp. Endocrinol.*
73(1):28-39. 1989. FR 34(2)

[Dep. Zool. & Wildl. Sci., 101 Cary Hall, Auburn Univ., Auburn, AL 36849]

89-001607 Brand, J. G.; T. Huque; J. L. Rabinowitz and D. L. Bayley. LIPID
CHARACTERIZATION AND ¹⁴C-ACETATE METABOLISM IN CATFISH TASTE EPITHELIUM.
Experientia (Basel) 45(1):77-81. 1989. FR 34(2)

[Monell Chem. Senses Cent., 3500 Market St., Philadelphia, PA 19104-3308] *Ictalurus
punctatus*.

89-001608 Braverman, Susan Bonnie. ANTIGENS ASSOCIATED WITH THE REGENERATION
OF THE OPTIC NERVE OF THE GOLDFISH. *Ph.D. dissertation, N.Y. Med. Coll.* 194p. 1988
From Diss. Abstr. Int. B Sci. Eng. 49(9):3603. 1989.

89-001610 Breton, Bernard; Elisabeth Sambromi and Christian Gillet. GONADOTROPIN-RELEASING HORMONE (GnRH) AND GONADOTROPIN (GtH) VARIATIONS AROUND THE SPAWNING PERIOD IN A WILD POPULATION OF ROACH (*Rutilus rutilus*) FROM LEMAN LAKE. I - THE FEMALE. *Aquat. Living Resour.* 1(2):93-99. 1988. In English with French summary. FR 34(2)

[INRA, Lab. Physiol. Poissons, Campus Beaulieu, 35042 Rennes, France]

89-001611 Brittain, Thomas and Rufus M. G. Wells. CHARACTERISTICS OF A BILIRUBIN-PROTEIN COMPLEX IN THE SERUM OF THE STARGAZER FISH (*GENYACHTUS NOVAEZEALANDIAE*: URANOSCOPIIDAE) AND ITS POSSIBLE ROLE IN CAMOUFLAGE. *Comp. Biochem. Physiol. B Comp. Biochem.* 92(2):303-306. 1989. FR 34(2)

[Dep. Biochem., Univ. Auckland, Auckland, New Zealand]

89-001612 Brown-Peterson, Nancy; Peter Thomas and Connie R. Arnold. REPRODUCTIVE BIOLOGY OF THE SPOTTED SEATROUT, *CYNOSCIION NEBULOSUS*, IN SOUTH TEXAS. *U.S. Natl. Mar. Fish. Serv. Fish. Bull.* 86(2):373-388. 1988. FR 34(2)

[Dep. Nat. Resour., Indian River Lagoon Aquat. Preserv., 4842 S. U.S. Hwy 1, Fort Pierce, FL 34982]

89-001613 Brown, C. L. and K. Takemura. PERIPHERAL REGULATION OF THYROID HORMONE DEIODINATION IN TILAPIA, *OREOCHROMIS MOSSAMBICUS*. *Am. Zool.* 28(4):148A. 1988. Abstract only. FR 34(2)

[Univ. Calif., Berkeley 94720]

89-001614 Brown, C. R. and J. N. Cameron. THE METABOLIC COST OF PROTEIN SYNTHESIS IN THE CHANNEL CATFISH. *Am. Zool.* 28(4):23A. 1988. Abstract only. FR 34(2)

[Univ. Calif., Los Angeles, 90024] *Ictalurus punctatus*.

89-001615 Brown, Christopher L. PHOTOPERIOD EFFECTS ON THYROID FUNCTION IN FISH. In: *Processing of Environmental Information in Vertebrates*, Milton H. Stetson, editor. p. 1-17. 1988. FR 34(2)

[Dep. Zool., Univ. Calif., Berkeley]

89-001616 Brown, E. A. R. and D. B. C. Scott. A SECOND HERMAPHRODITE SPECIMEN OF *COREGONUS LAVARETUS* (L.) (SALMONIDAE, COREGONINAE) FROM LOCH LOMOND SCOTLAND. *J. Fish Biol.* 33(6):957-958. 1988. FR 34(2)

[Dep. Biol. & Preclinical Med., Univ. St. Andrews, St. Andrews, Fife KY16 9TS Scotland]

89-001617 Burkhardt-Holm, Patricia and Susanne Holmgren. A COMPARATIVE STUDY OF NEUROPEPTIDES IN THE INTESTINE OF TWO STOMACHLESS TELEOSTS (*POECILIA RETICULATA*, *LEUCISCUS IDUS MELANOTUS*) UNDER CONDITIONS OF

89-001617 CONTINUED FEEDING AND STARVATION. *Cell Tissue Res.* 255(1):245-254. 1989. FR 34(2)
[Zool. Inst. I (Morphol., Okol.) Univ. Heidelberg, Im Neuenheimer Feld 230, D-6900 Heidelberg, West Germany]

89-001618 Butler, P. J.; M. Axelsson; F. Ehrenstrom; J. D. Metcalfe and S. Nilsson. CIRCULATING CATECHOLAMINES AND SWIMMING PERFORMANCE IN THE ATLANTIC COD, *GADUS MORHUA*. *J. Exp. Biol.* 141:377-397. 1989. FR 34(2)
[Dep. Zool. & Comp. Physiol., Univ. Birmingham, Birmingham B15 2TT, England]

89-001619 Campbell, Anthony K. and Peter J. Herring. A NOVEL RED FLUORESCENT PROTEIN FROM THE DEEP SEA LUMINOUS FISH *MALACOSTEUS NIGER*. *Comp. Biochem. Physiol.* 6 *Comp. Biochem.* 86(2):411-417. 1987. FR 34(2)
[Dep. Med. Biochem., Univ. Wales Coll. Med., Heath Park, Cardiff CF4 4XN, Wales]

89-001620 Cann-Morsan, C.; J. Caroff; P. Sebert and L. Barthelemy. DETERMINATION OF NUCLEOTIDE CONCENTRATIONS WITH HIGH PERFORMANCE LIQUID CHROMATOGRAPHY (HPLC): APPLICATION TO FISH. *Aquaculture* 76(1/2):135-143. 1989. FR 34(2)
[Lab. Physiol., UA-CNRS 648, Fac. Med., BP 815, 29285 Brest Cedex, France]
Oncorhynchus mykiss.

89-001621 Carter, Charleata A. CELL MOVEMENTS AND INTERACTIONS DURING EARLY DEVELOPMENT OF THE SOUTH AMERICAN ANNUAL FISH, *CYNOLEBIAS*. *Ph.D. dissertation, Clemson Univ.* 171p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(7):2524. 1989. Order No. DA8920172. FR 34(2)

89-001622 Cavadias, Eleni and John H. Gee. VARIABLES AFFECTING BUOYANCY IN THREE SPECIES OF *PERCINA* (PISCES). *Comp. Biochem. Physiol. A Comp. Physiol.* 87(2):275-285. 1987. FR 34(2)
[Dep. Zool., Univ. Manitoba, Winnipeg, MB, Canada R3T 2N2] *P. shumardi*, *P. maculata*, and *P. coprodes* in Canada.

89-001623 Chandler, G. L. and T. C. Bjornn. ABUNDANCE, GROWTH, AND INTERACTIONS OF JUVENILE STEELHEAD RELATIVE TO TIME OF EMERGENCE. *Trans. Am. Fish. Soc.* 117(5):432-443. 1988. FR 34(2)
[Coop. Fish & Wildl. Res. Unit, Univ. Idaho, Moscow 83843] *Oncorhynchus mykiss*.

89-001624 Chang, Michael C. J. and Betty I. Roots. INFLUENCE OF ENVIRONMENTAL TEMPERATURE ON THE PHOSPHOLIPID COMPOSITION OF OUTER AND INNER MITOCHONDRIAL MEMBRANES FROM GOLDFISH (*CARASSIUS AURATUS* L.) BRAIN. *J. Therm. Biol.* 13(2):61-66. 1988. FR 34(2)
[Dep. Zool., Univ. Toronto, Toronto, ON, Canada M5S 1A1]

89-001625 Charest, Robert P.; Maymie Chenoweth and Arnold Dunn. METABOLISM OF TRIMETHYLAMINES IN KELP BASS (*PARALABRAX CLATHRATUS*) AND MARINE AND FRESHWATER PINK SALMON (*ONCORHYNCHUS CORBUSCHIA*). *J. Comp. Physiol. B Biochem. Syst. Environ. Physiol.* 158(5):609-619. 1989. FR 34(2)
[Mol. Biol. Sect., Dep. Biol. Sci., Univ. South. Calif., Los Angeles 90089]

RENAL, CARDIOVASCULAR AND HEMOLYTIC ACTIONS IN THE RATE OF A TOXIC
EXTRACT FROM THE BILE OF THE GRASS CARP (*CTENOPHARYNGODON IDELLUS*).
Toxicol. 22(3):433-439. 1984. FR 34(2)
[Dep. Physiol., Coll. Med., Natl. Taiwan Univ., Taipei, Taiwan]

89-001628 Chiba, Akira; Shin Ohnishi and Yoshiharu Honma. IMMUNOCYTOCHEMICAL
LOCALIZATION OF S-100 PROTEIN IN THE HYPOPHYSIS AND SACCUS VASCULOSUS OF
THE ELASMOBRANCHS *MUSTELUS MANAZO* AND *SCYLIORHINUS TORAZAME*. *Cell Tissue*
Res. 255(2):255-260. 1989. FR 34(2)
[Dep. Biol., School Dentistry, Nippon Dental Univ., Niigata 951, Japan]

89-001629 Ciupercescu, D. D.; Carmen Socaciu; Monica Munteanu; J. Molnar and I. Pasca.
SOME PARAMETERS OF SPERM MORPHOLOGY AND PHYSIOLOGY IN RAINBOW TROUT
(*Salmo gairdneri*) ARE RELATED TO THE FERTILIZING CAPACITY. *Bul. Inst. Agron.*
Cluj-Napoca Ser. Zooteh. Med. Vet. 41:99-104. 1987. In English with Romanian summ. FR
34(2)

89-001630 Clancy, Christopher G. EFFECTS OF DEWATERING ON SPAWNING BY
YELLOWSTONE CUTTHROAT TROUT IN TRIBUTARIES TO THE YELLOWSTONE RIVER
MONTANA. *Am. Fish. Soc. Symp.* 4:37-41. 1988. FR 34(2)
[Dep. Fish, Wildl. & Parks, 406 S. 11th St., Livingston, MT 59047] *Oncorhynchus clarkii*
bouvieri.

89-001631 Cloud, J. G.; A. L. Erdahl and E. F. Graham. SURVIVAL AND CONTINUED
NORMAL DEVELOPMENT OF FISH EMBRYOS AFTER INCUBATION AT REDUCED
TEMPERATURES. *Trans. Am. Fish. Soc.* 117(5):503-506. 1988. FR 34(2)
[Dep. Biol. Sci., Univ. Idaho, Moscow 83843] *Pimephales promelas*.

89-001632 Coello, S. A NEW STAINING SCHEDULE FOR FORMALIN-FIXED, GLYCOL
METHACRYLATE-EMBEDDED FISH OVARIES. *J. Fish Biol.* 34(2):329-330. 1988. FR 34(2)
[School Biol. Sci., Univ. Coll. N. Wales, Bangor, Gwynedd LL57 2UW, Wales] *Scomber*
scombrus, *Thunnus albacares*, and *Mycteroperca affix*.

89-001633 Cohen, Stewart L. and Richard M. Kriebel. TERMINAL PROCESSES OF
SEROTONIN NEURONS IN THE CAUDAL SPINAL CORD OF THE MOLLY, *POECILIA*
LATIPINNA, PROJECT TO THE LEPTOMENINGES AND UROPHYSIS. *Cell Tissue Res.*
255(3):619-625. 1989. FR 34(2)
[Kriebel: Dep. Anat., Philadelphia Coll. Osteopathic Med., 4150 City Ave., Philadelphia
PA 19131]

89-001634 Conlon, J. Michael; Rudiger Goke; P. C. Andrews and Lars
MOLECULAR FORMS OF INSULIN AND GLUCAGON-LIKE PEPTIDE FROM
RAINFISH (*HYDROLAGUS COLLIEI*). *Gen. Comp. Endocrinol.* 73(1):136-146.
[Clinical Res. Group Gastrointestinal Endocrinol., Max-Planck-Ges
Gottingen, Gosslerstr. 10D, D-3400 Gottingen, West Germany]

89-001636 Copeland, Paul A. and Peter Thomas. PURIFICATION OF MATURATIONAL GONADOTROPIN FROM ATLANTIC CROAKER (*MICROPOGONIAS UNDULATUS*) AND DEVELOPMENT OF A HOMOLOGOUS RADIOIMMUNOASSAY *Gen. Comp. Endocrinol.* 73(3) 425-441. 1989. FR 34(2)

[Univ. Tex. Austin, Mar. Sci. Inst., Port Aransas 78373-1267]

89-001637 Corina, K. and G. V. Callard. INITIAL PURIFICATION STUDIES OF AROMATASE IN GOLDFISH (*CARASSIUS AURATUS*) BRAIN. *Am. Zool.* 28(4):54A. 1988. Abstract only. FR 34(2)

[Boston Univ., Boston, MA]

89-001638 Cravedi, J. P.; G. Delous and D. Rao. DISPOSITION AND ELIMINATION ROUTES OF 17 α -METHYLTESTOSTERONE IN RAINBOW TROUT (*SALMO GAIRDNERI*). *Can. J. Fish. Aquat. Sci.* 46(1):159-165. 1989. In English with French summ. FR 34(2)

[I.N.R.A., Lab. Xenobiotiques, B.P. 3, 31931 Toulouse Cedex, France]

89-001639 Crim, Laurence W.; Nancy M. Sherwood and Connie E. Wilson. SUSTAINED HORMONE RELEASE. II. EFFECTIVENESS OF LHRH ANALOG (LHRHa) ADMINISTRATION BY EITHER SINGLE TIME INJECTION OR CHOLESTEROL PELLET IMPLANTATION ON PLASMA GONADOTROPIN LEVELS IN A BIOASSAY MODEL FISH, THE JUVENILE RAINBOW TROUT. *Aquaculture* 74(1/2):87-95. 1988. FR 34(2)

[Mar. Sci. Res. Lab., Memorial Univ. Newfoundland, St. John's, NF, Canada A1C 5S7]
Oncorhynchus mykiss.

89-001640 Crockett, E. L.; B. D. Sidell and W. R. Driedzic. METABOLIC FUEL PREFERENCE IN MUSCLE TISSUES FROM AN ANTARCTIC FISH, *NOTOTHENIA CIBBERIDROMUS*. *Am. Zool.* 28(4):42A. 1988. Abstract only. FR 34(2)

[Univ. Maine, Orono 04469]

89-001641 Dabrowska, H.; K. Meyer-Burgdorff and K.-D. Gunther. INTERACTION BETWEEN DIETARY PROTEIN AND MAGNESIUM LEVEL IN TILAPIA (*OREOCHROMIS NILOTICUS*). *Aquaculture* 76(3/4):277-291. 1989. FR 34(2)

[Inst. Anim. Physiol. & Nutr., Univ. Göttingen, O-Kellner-Weg 6, 3400 Göttingen, West Germany]

89-001642 Dabrowska, H.; K.-D. Gunther and K. Meyer-Burgdorff. AVAILABILITY OF VARIOUS MAGNESIUM COMPOUNDS TO TILAPIA (*OREOCHROMIS NILOTICUS*). *Aquaculture* 76(3/4):269-276. 1989. FR 34(2)

[Inst. Anim. Physiol. & Nutr., Univ. Göttingen, O-Kellner-Weg 6, 3400 Göttingen, West Germany]

89-001643 Davison, W. THE MYOTOMAL MUSCLE OF LABRIFORM SWIMMING FISH IS NOT DESIGNED FOR HIGH SPEED SUSTAINED SWIMMING. *N.Z. Nat. Sci.* 15:37-42. 1988. FR 34(2)

[Dep. Zool., Univ. Canterbury, Christchurch 1, New Zealand] *Pseudolabrus celidotus* and *P. lucicola*.

BINDING IN THE PITUITARY OF THE AFRICAN CATFISH, *CLARIAS GARIEPINUS*. Gen. Comp. Endocrinol. 72(3):408-415. 1988. FR 34(2)
[Dep. Exp. Zool., Res. Group Comp. Endocrinol., Univ. Utrecht, Padualaan 8, 3584 CH Utrecht, Netherlands]

89-001645 de Luze, Amaury; Jacques Loloup; Harold Papkoff; Sakae Kikuyama and Hiroshi Kawauchi. EFFECTS OF VERTEBRATE PROLACTINS AND GROWTH HORMONES ON THYROIDINE 5'-MONODEIODINATION IN THE EEL (*ANGUILLA ANGUILLA*): A POTENTIAL BIOASSAY FOR GROWTH HORMONE. Gen. Comp. Endocrinol. 73(2) 186-193. 1989. FR 34(2)
[Lab. Physiol. Gen. & Comp. Mus. & Lab. Endocrinol. Comp., CNRS, 75231 Paris Cedex, France]

89-001646 Degani, G.; M. L. Gallagher and A. Meltzer. THE INFLUENCE OF BODY SIZE AND TEMPERATURE ON OXYGEN CONSUMPTION OF THE EUROPEAN EEL, *ANGUILLA ANGUILLA*. J. Fish Biol. 34(1):19-24. 1989. FR 34(2)
[Migal, Galilee Technol. Cent., Kiryat Shmona 10-200, Israel]

89-001647 Degani, Gad. BODY COMPOSITION OF AFRICAN CATFISH (*CLARIAS GARIEPINUS*) AT DIFFERENT AGES. Bamidgeh 40(4):118-121. 1988. FR 34(2)
[Migal-Galilee Technol. Cent., Kiryat Shmona 10200, Israel]

89-001648 Degani, Gad; Yigal Ben-Zvi and Dan Levanon. THE EFFECT OF DIFFERENT PROTEIN LEVELS AND TEMPERATURES ON FEED UTILIZATION, GROWTH AND BODY COMPOSITION OF *CLARIAS GARIEPINUS* (BURCHELL 1822). Aquaculture 76(3/4):293-301. 1989. FR 34(2)
[Migal-Galilee Technol. Cent., Kiryat Shmona 10-200, Israel]

89-001649 Dickson, K. A. AT WHAT SIZE ARE TUNAS ABLE TO ELEVATE MUSCLE TEMPERATURES SIGNIFICANTLY? Am. Zool. 28(4):46A. 1988. Abstract only. FR 34(2)
[Calif. State Univ., Fullerton] *Euthynnus lineatus*.

89-001650 Dickson, Kathryn Ann. WHY ARE SOME FISHES ENDOTHERMIC? INTERSPECIFIC COMPARISONS OF AEROBIC AND ANAEROBIC METABOLIC CAPACITIES IN ENDOTHERMIC AND ECTOTHERMIC SCOMBRIDS. Ph.D. dissertation, Univ. Calif. (San Diego) 389p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(8):3047. 1989. Order No. DA8811871. FR 34(2)
Scomber japonicus, *Scomberomorus sierra*, *Sarda chiliensis*, *Acanthocybium solandri*, *Auxis thazard*, *Euthynnus lineatus*, *E. pelamis*, *Thunnus albacares*, and *T. alalunga*.

89-001651 Donald, John A. ADRENALINE AND BRANCHIAL NERVE STIMULATION INHIBIT ⁴⁵Ca INFLUX INTO THE GILLS OF RAINBOW TROUT, *SALMO GAIRDNERI*. J. Exp. Biol. 141:441-445. 1989. FR 34(2)
[Dep. Zool., Univ. Fla., Gainesville 32611]

89-001652 Dosoretz, Carlos and Gad Degani. EFFECT OF FAT RICH DIET AND TEMPERATURE ON GROWTH AND BODY COMPOSITION OF EUROPEAN EELS (*ANGUILLA ANGUILLA*). Comp. Biochem. Physiol. A Comp. Physiol. 87(3):733-736. 1987. FR 34(2)
[Migal, Galilee Technol. Cent., Kiryat Shmona 10200, Israel]

SYNTHESIS IN LIVERS OF TROUT AND RAT. *Aquat. Toxicol. (Amst.)* 13(2):155-166. 1988.
FR 34(2)
[Miller: Dep. Biochem., Med. Cent., W.Va. Univ., Morgantown 26506] *Oncorhynchus mykiss*.

69-001654 du Preez, Hein H.; W. Strydom and P. E. D. Winter. OXYGEN CONSUMPTION OF TWO MARINE TELEOSTS, *LITHOGNATHUS MORMYRUS* (LINNAEUS, 1758) AND *LITHOGNATHUS LITHOGNATHUS* (CUVIER, 1830) (TELEOSTEI: SPARIDAE). *Comp. Biochem. Physiol. A Comp. Physiol.* 85(2):313-331. 1986. FR 34(2)
[Zool. Dep., Rand Afrikaans Univ., Auckland Park, P.O. Box 524, Johannesburg 2000, South Africa]

89-001655 Duff, D. W.; D. Fitzgerald; D. Kullman; D. W. Lipke; J. Ward and K. R. Olson. BLOOD VOLUME AND RED CELL SPACE IN TISSUES OF THE RAINBOW TROUT, *SALMO GAIARDNERI*. *Comp. Biochem. Physiol. A Comp. Physiol.* 87(2):393-398. 1987. FR 34(2)
[Olson: Cent. Med. Educ., Haggard Hall, Univ. Notre Dame, Notre Dame, IN 46556]

89-001656 Dunel-Erb, Suzanne; Yannick Bailly and Pierre Laurent. NEURONS CONTROLLING THE GILL VASCULATURE IN FIVE SPECIES OF TELEOSTS. *Cell Tissue Res.* 255(3):567-573. 1989. FR 34(2)
[Lab. Morphol. Fonctionnelle & Ultrastructurale Adapt., CNRS, BP. 20CR, F-67037 Strasbourg Cedex, France] *Oncorhynchus mykiss*, *Ictalurus melas*, *Sander lucioperca*, *Perca fluviatilis*, and *Micropterus dolomieu*.

89-001657 Duston, James. CIRCANNUAL RHYTHMS OF MATURATION IN THE FEMALE RAINBOW TROUT AND THEIR ENTRAINMENT BY CHANGES IN PHOTOPERIOD. *Ph.D. Dissertation, Aston Univ. (United Kingdom)* 292p. 1987. From Diss. Abstr. Int. B Sci. Eng. 49(9):3628. 1989. Order No. BRDX83309. FR 34(2)
Oncorhynchus mykiss.

89-001658 Dutil, J.-D. and J.-M. Coutu. EARLY MARINE LIFE OF ATLANTIC SALMON, *SALMO SALAR*, POSTSMOLTS IN THE NORTHERN GULF OF ST. LAWRENCE. *U.S. Natl. Mar. Fish. Serv. Bull.* 86(2):197-212. 1988. FR 34(2)
[Coutu: Minist. Pêches & Océans, Govt. Canada, 850, Rt. de la Mer, C.P. 1000, Mont-Joli, PQ, Canada G5H 3Z4]

89-001659 Dux, Laszlo; Gabor Lelkes; Le Huu Hieu and Janos Nemcsok. STRUCTURAL DIFFERENCES BETWEEN THE Ca^{2+} -ATPase ENZYMES OF SARCOPLASMIC RETICULUM MEMBRANE FROM RABBIT AND CARP MUSCLES. *Comp. Biochem. Physiol. B Comp. Biochem.* 92(2):263-270. 1989. FR 34(2)
[Dep. Biochem., Albert Szent-Gyorgyi Univ. Med. School, H-6701 Szeged, P.O. Box 415, Hungary] *Cyprinus carpio*.

89-001660 Eales, J. G. and Beverly A. Himick. THE EFFECTS OF TRH ON PLASMA THYROID HORMONE LEVELS OF RAINBOW TROUT (*SALMO GAIARDNERI*) AND ARCTIC CHARR (*SALVELINUS ALPINUS*). *Gen. Comp. Endocrinol.* 72(3):333-339. 1988. FR 34(2)
[Dep. Zool., Univ. Manitoba, Winnipeg, MB, Canada R3T 2N2]

89-001661 Eckmayer, William Joseph. THE RELATIONSHIP OF AGE, SIZE AND RATE OF TOTAL BODY LIPIDS IN YOUNG-OF-THE-YEAR RAINBOW TROUT (*Oncorhynchus mykiss*). *Ph.D. Dissertation, Ohio State Univ.*

Sci. Fish. 54(12):2121-2126. 1988. In English. FR 34(2)
[Dep. Microbiol. & Parasitol., Univ. Santiago, Santiago Compostela, Spain]

89-001664 Fargher, Robert C. and Brian A. McKeown. THE EFFECT OF PROLACTIN ON CALCIUM HOMEOSTASIS IN COHO SALMON (*ONCORHYNCHUS KISUTCH*). *Gen. Comp. Endocrinol.* 73(3):398-403. 1989. FR 34(2)

[Dep. Physiol., 2146 Health Sci. Mall, Univ. British Columbia, Vancouver, BC, Canada V6T 1W5]

89-001665 Fay, Richard R. INTENSITY DISCRIMINATION OF PULSED TONES BY THE GOLDFISH (*CARASSIUS AURATUS*). *J. Acoust. Soc. Am.* 85(1):500-502. 1989. FR 34(2)

[Parmly Hearing Inst., Loyola Univ., 6525 N. Sheridan Rd., Chicago, IL 60626]

89-001666 Fay, Richard R. FREQUENCY DISCRIMINATION IN THE GOLDFISH (*CARASSIUS AURATUS*): EFFECTS OF ROVING INTENSITY, SENSATION LEVEL, AND THE DIRECTION OF FREQUENCY CHANGE. *J. Acoust. Soc. Am.* 85(1):503-505. 1989. FR 34(2)

[Parmly Hearing Inst., Loyola Univ., 6525 N. Sheridan Rd., Chicago, IL 60626]

89-001667 Fernandez, J.; O. Gonzalez; M. Martin and M. Ruiz Amil. TROUT (*SALMO GAIARDNERI* R.) LIVER 5-AMINOLEVULINATE SYNTHETASE: SUBCELLULAR DISTRIBUTION AND PROPERTIES. *Comp. Biochem. Physiol. B Comp. Biochem.* 86(2):245-249. 1987. FR 34(2)

[Martin: Fac. Vet., Univ. Complutense, 28040 Madrid, Spain]

89-001668 Fernando, M. M. MONOAMINERGIC NERVES IN THE SKIN OF PLAICE *PLEURONECTES PLATESSA* (L.). *Comp. Biochem. Physiol. C Comp. Pharmacol. Toxicol.* 92(1):1-4. 1989. FR 34(2)

[Coll. Med. & Med. Sci., King Faisal Univ., P.O. Box 2114, Dammam 31451, Saudi Arabia]

89-001669 Fileti, L. and I. Callard. GONADAL REGULATION IN THE FEMALE SKATE, *RAJA ERINACEA*. *Am. Zool.* 28(4):54A. 1988. Abstract only. FR 34(2)

[NOIBL, Salisbury Cove, ME]

89-001670 Fish Passage Center. SMOLT MONITORING PROGRAM: ANNUAL REPORT, 1986: VOLUME 1, MIGRATIONAL CHARACTERISTICS OF COLUMBIA BASIN SALMON AND STEELHEAD TROUT. *Fish Passage Cent. (Portland, Oreg.) DOE/BP/61747-1*. 189p. 1987. From U.S. Government Reports 87(22):19. 1987. Available from NTIS as DE87009908/GAR. FR 34(2)

Oncorhynchus kisutch, *O. mykiss*, *O. nerka*, and *O. tshawytscha* in Oregon.

- LUNGFISH. *Comp. Pulmonary Physiol. Current Concepts* 39:645-675. 1989. FR 34(2)
[Dep. Med., Univ. Pa., Hospital Univ., Philadelphia]
- 89-001672 Fitzpatrick, Martin S. and Carl B. Schreck. *IN VITRO* STEROID SECRETION AND PRODUCTION OF GONADAL PROTEIN DURING SEX DIFFERENTIATION IN RAINBOW TROUT. *Am. Zool.* 28(4):157A. 1988. Abstract only. FR 34(2)
[Oreg. State Univ., Corvallis 97331] *Oncorhynchus mykiss*.
- 89-001673 Fivizzani, A. J.; T. P. McCreery and T. Hoffnagle. TIMING OF THYROID CONTROL OF SMOLTIFICATION IN FRESHWATER POPULATIONS OF CHINOOK SALMON. *Am. Zool.* 28(4):148A. 1988. Abstract only. FR 34(2)
[Univ. N.D., Grand Forks 58202] *Oncorhynchus tshawytscha*.
- 89-001674 Forster, Ian; David A. Higgs; Gordon R. Bell; B. S. Dosanjh and B. E. March. EFFECT OF DIETS CONTAINING HERRING OIL OXIDIZED TO DIFFERENT DEGREES OF GROWTH AND IMMUNOCOMPETENCE OF JUVENILE COHO SALMON (*ONCORHYNCHUS KISUTCH*). *Can. J. Fish. Aquat. Sci.* 45(12):2187-2194. 1988. In English with French summ. FR 34(2)
[Dep. Anim. Sci., Univ. British Columbia, Vancouver, BC, Canada V6T 2A2]
- 89-001675 Foster, G. D. and T. W. Moon. INSULIN AND THE REGULATION OF GLYCOGEN METABOLISM AND GLUCONEOGENESIS IN AMERICAN EEL HEPATOCYTES. *Gen. Comp. Endocrinol.* 73(3):374-381. 1989. FR 34(2)
[Dep. Biol., Univ. Ottawa, Ottawa, ON, Canada K1N 6N5] *Anguilla rostrata*.
- 89-001676 Foster, G. D.; K. B. Storey and T. W. Moon. THE REGULATION OF 6-PHOSPHOFRUCTO-1-KINASE BY INSULIN AND GLUCAGON IN ISOLATED HEPATOCYTES OF THE AMERICAN EEL. *Gen. Comp. Endocrinol.* 73(3):382-389. 1989. FR 34(2)
[Moon: Dep. Biol., Univ. Ottawa, Ottawa, ON, Canada K1N 6N5] *Anguilla rostrata*.
- 89-001677 Fouchereau-Peron, M.; Y. Arlot-Bonnemains; M. S. Moukhtar and G. Milhaud. CALCITONIN INDUCES HYPERCALCEMIA IN GREY MULLET AND IMMATURE FRESHWATER AND SEA-WATER ADAPTED RAINBOW TROUT. *Comp. Biochem. Physiol. A Comp. Physiol.* 87(4):1051-1053. 1987. FR 34(2)
[Lab. Biol. Mar. Coll. France, 29110 Concarneau, France] *Oncorhynchus mykiss* and *Chelon labrosus*.
- 89-001678 Frith, H. R. and R. W. Blake. FAST-STARTS AND THE DAILY ENERGY BUDGET OF NORTHERN PIKE, *ESOX LUCIUS*. *Am. Zool.* 28(4):13A. 1988. Abstract only. FR 34(2)
[Univ. British Columbia, Vancouver, BC, Canada]
- 89-001679 Furnell, Donald James. THE EFFECT OF FEEDING FREQUENCY ON THE RESPIRATORY METABOLISM OF SABLEFISH (*ANOPILOPOMA FIMBRIA*). *Ph.D. dissertation, Univ. British Columbia (Canada)* 1987. From Diss. Abstr. Int. B Sci. Eng. 49(8):3048. 1989. FR 34(2)
- 89-001680 Fusetani, Nobuhiro; Shigeru Sato and Kanehisa Hashimoto. OCCURRENCE OF A WATER SOLUBLE TOXIN IN A PARROTFISH (*YPSISCARUS OVIFRONS*) WHICH IS PROBABLY RESPONSIBLE FOR PARROTFISH POISONING. *Am. Zool.* 28(4):13A. 1988. Abstract only. FR 34(2)

DIFFERENT SALINITY - ALKALINITY. Proc. Desert Fishes Council. 17:141-142. 1987.
English and Spanish abstract only. FR 34(2)
[Ariz. State Univ., Tempe 85287]

89-001682 Gamperl, A. K.; J. Bryant and E. D. Stevens. EFFECT OF A SPRINT TRAINING PROTOCOL ON GROWTH RATE, CONVERSION EFFICIENCY, FOOD CONSUMPTION AND BODY COMPOSITION OF RAINBOW TROUT, *SALMO GAIARDNERI* RICHARDSON. *J. Fish Biol.* 33(6):861-870. 1988. FR 34(2)
[Dep. Zool. & Group Advance. Fish Studies, Univ. Guelph, Guelph, ON, Canada N1G 2W1]

89-001683 Gibbs, A. and G. N. Somero. ADAPTATION OF NA-K-ATPASE LEVELS IN MARINE TELEOST GILLS: EFFECTS OF SIZE, DEPTH, AND ACTIVITY. *Am. Zool.* 28(4):20A. 1988. Abstract only. FR 34(2)
[Scripps Inst. Oceanogr., La Jolla, CA]

89-001684 Giguere, Louis A.; Brenda Cote and J.-F. St-Pierre. METABOLIC RATES SCALE ISOMETRICALLY IN LARVAL FISHES. *Mar. Ecol. Prog. Ser.* 50(1/2):13-19. 1988. FR 34(2)
[Inst. Maurice Lamontagne, Minist. Peches & Oceans, C.P. 1000, Mont-Joli, PQ, Canada G5H 3Z4] *Scomber scombrus*.

89-001685 Gingerich, W. H.; R. A. Pityer and J. J. Rach. ESTIMATES OF PLASMA, PACKED CELL AND TOTAL BLOOD VOLUME IN TISSUES OF THE RAINBOW TROUT (*SALMO GAIARDNERI*). *Comp. Biochem. Physiol. A Comp. Physiol.* 87(2):251-256. 1987. FR 34(2)
[Natl. Fish. Res. Lab., U.S. Fish & Wildl. Serv., P.O. Box 818, La Crosse, WI 54602-0818]

89-001686 Gingerich, W. H. and K. R. Drottler. PLASMA CATECHOLAMINE CONCENTRATIONS IN RAINBOW TROUT (*SALMO GAIARDNERI*) AT REST AND AFTER ANESTHESIA AND SURGERY. *Gen. Comp. Endocrinol.* 73(3):390-397. 1989. FR 34(2)
[U.S. Fish & Wildl. Serv., Natl. Fish. Res. Cent., P.O. Box 818, La Crosse, WI 54602]

89-001687 Glass, H. J.; N. L. MacDonald and J. R. Stark. METABOLISM IN MARINE FLATFISH - IV. CARBOHYDRATE AND PROTEIN DIGESTION IN ATLANTIC HALIBUT (*HIPPOGLOSSUS HIPPOGLOSSUS* L.). *Comp. Biochem. Physiol. B Comp. Biochem.* 86(2):281-289. 1987. FR 34(2)
[Dep. Brewing & Biol. Sci., Heriot-Watt Univ., Edinburgh, Scotland]

89-001688 Goldberg, Arthur S.; Alan M. Duffield and Kevin D. Barrow. DISTRIBUTION AND CHEMICAL COMPOSITION OF THE TOXIC SKIN SECRETIONS FROM TRUNKFISH (FAMILY OSTRACIIDAE). *Toxicon* 26(7):651-663. 1988. FR 34(2)
[Dep. Chem., Long Island Univ., Southampton, NY 11968] *Anoplacapros lenticularis*, *Aracona aurita*, *A. ornata*, *Lactoria fornasini*, *Ostracion cubicus*, *Rhinesomas reipublicae*, *Strophilurichthys inermis*, and *S. robustus*.

89-001689 Goldemberg, Adriana L.; Lidia Paron and Marcos Crupkin. ACID PHOSPHATASE ACTIVITY IN PRE- AND POST-SPAWNING HAKE (*MERLUCCIIUS HUBBSI*). *Comp. Biochem. Physiol. A Comp. Physiol.* 87(4):845-849. 1987. FR 34(2)
[Fac. Cienc. Exactas Nat., U.N. Mar del Plata, Funes 3250, 7600 Mar del Plata, Argentina]

89-001692 Graham, Jeffrey B.; William R. Lowell; N. Chin Lai and R. Michael Laurs. O₂ TENSION, SWIMMING-VELOCITY, AND THERMAL EFFECTS ON THE METABOLIC RATE OF THE PACIFIC ALBACORE *THUNNUS ALALUNGA*. *Exp. Biol. (Berl.)* 48(2):89-94. 1989. FR 34(2)
[Physiol. Res. Lab. & Mar. Biol. Res. Div., Scripps Inst. Oceanogr., Univ. Calif. San Diego, La Jolla 92093]

89-001693 Gunderson, Donald R. and Peter H. Dygert. REPRODUCTIVE EFFORT AS A PREDICTOR OF NATURAL MORTALITY RATE. *J. Cons. Cons. Int. Explor. Mer* 44(2):200-209. 1988. FR 34(2)
[School Fish., Univ. Wash., Seattle 98195] *Parophrys vetulus*, *Gadus macrocephalus*, *Clupea harengus pallasi*, *Squalus acanthias*, and *Sebastes caurinus*.

89-001694 Haider, S. and R. Moses Inbaraj. *IN VITRO* EFFECTS OF CYANOKETONE AND EPOSTANE ON LH-INDUCED GERMINAL VESICLE BREAKDOWN IN OOCYTES OF INDIAN MAJOR CARPS. *Gen. Comp. Endocrinol.* 73(1):92-95. 1989. FR 34(2)
[Cent. Advanced Study Zool., Banaras Hindu Univ., Varanasi-221 005, India] *Labeo rohita*, *Cirrhina mrigala*, and *Catla catla*.

89-001695 Hallerman, Eric M.; John F. Schneider; Mark L. Gross; Anthony J. Faras; Perry B. Hackett; Kevin S. Guise and Anne R. Kapuscinski. ENZYMATIC DECHORIONATION OF GOLDFISH, WALLEYE, AND NORTHERN PIKE EGGS. *Trans. Am. Fish. Soc.* 117(5):456-460. 1988. FR 34(2)
[Dep. Anim. Sci., Univ. Minn., Saint Paul 55108] *Carassius auratus*, *Stizostedion vitreum*, and *Esox lucius*.

89-001696 Haney, D. C. VARIATIONS IN CRITICAL OXYGEN TENSION DUE TO CHANGE IN SALINITY IN *CYPRINODON VARIEGATUS*. *Am. Zool.* 28(4):16A. 1988. Abstract only. FR 34(2)
[Univ. Fla., Gainesville 32611]

89-001697 Hansen, L. P.; B. Jonsson; R. I. G. Morgan and J. E. Thorpe. INFLUENCE OF PARR MATURITY ON EMIGRATION OF SMOLTING ATLANTIC SALMON (*SALMO SALAR*). *Can. J. Fish. Aquat. Sci.* 46(3):410-415. 1989. In English with French summ. FR 34(2)
[Norwegian Inst. Nat. Res., Tungasletta 2, N-7004 Trondheim, Norway]

89-001698 Hanssen, Robert G. J. M.; Floris P. J. G. Lafeber, Gert Flik and Sjoerd I. Wendelaar Bonga. IONIC AND TOTAL CALCIUM LEVELS IN THE BLOOD OF THE EUROPEAN EEL (*ANGUILLA ANGUILLA*): EFFECTS OF STANNIECTOMY AND HYPOCALCAEMIC REPLACEMENT THERAPY. *J. Exp. Biol.* 141:177-186. 1989. FR 34(2)
[Dep. Anim. Physiol., Fac. Sci. Univ. Nijmegen, Toernooiveld 25, 6525 ED Nijmegen, Netherlands]

1988. From Diss. Abstr. Int. B Sci. Eng. 49(9):3567-3568. 1989. Order No. DA8821516. FR 34(2)

Perca flavescens.

89-001701 Honebry, M. S.; R. W. Gordon and D. H. Buck. BACTERIAL POPULATIONS IN THE GUT OF THE SILVER CARP (*HYPOPHthalmichthys molitrix*). *Prog. Fish-Cult* 50(2):86-92. 1988. FR 34(2)

[Environ. Protection Agency, 2200 Churchill Rd., Springfield, IL 62794]

89-001702 Hertz, Yitzhak; Zecharia Madar; Balfour Hopher and Arieh Gertler. GLUCOSE METABOLISM IN THE COMMON CARP (*CYPRINUS CARPIO* L.): THE EFFECTS OF COBALT AND CHROMIUM. *Aquaculture* 76(3/4):255-267. 1989. FR 34(2)

[Hebrew Univ. Jerusalem, Dep. Biochem. & Human Nutr., Rehovot 76100, Israel]

89-001703 Holtzman, S. and K. D. Kallman. GROWTH HORMONE (GH) PRODUCING CELLS IN GENETIC STOCKS OF THE POECILIID TELEOST *XIPHOPHORUS NIGRENSIS*. *Am. Zool* 28(4):159A. 1988. Abstract only. FR 34(2)

[Brooklyn Coll. & N.Y. Aquarium, Brooklyn]

89-001704 Hoss, Donald E.; Linda Coston-Clements; David S. Peters and Patricia A. Tester. METABOLIC RESPONSES OF SPOT, *LEIOSTOMUS XANTHURUS*, AND ATLANTIC CROAKER, *MICROPOGONIAS UNDULATUS*, LARVAE TO COLD TEMPERATURES ENCOUNTERED FOLLOWING RECRUITMENT TO ESTUARIES. *U.S. Natl. Mar. Fish Serv. Fish. Bull.* 86(3):483-488. 1988. FR 34(2)

[Tester; Southeast Fish. Cont. Beaufort Lab., NMFS, NOAA, Beaufort, NC 28516]

89-001705 Howe, Jeffrey C. OXYGEN CONSUMPTION RATE IN JUVENILE SCALLOP HAMMERHEAD SHARKS (*SPHYRNA LEWINI* (GRIFFITH AND SMITH)): A PRELIMINARY STUDY. *J. Aquaric. Aquat. Sci.* 5(2):28-31. 1988. FR 34(2)

[350 Scottsdale Dr., Wilmington, NC 28405]

89-001706 Hughes, G. M. and T. Koyama. EFFECT OF TEMPERATURE ON THE DEFORMABILITY OF A LAMPREY, *ENTOSPHENUS JAPONICUS*, AND PACIFIC SALMON *ONCORHYNCHUS KETA*, RED BLOOD CELLS, STUDIED USING A MODIFIED FILTRATION METHOD. *J. Fish Biol.* 33(6):945-950. 1988. FR 34(2)

[Res. Unit Comp. Anim. Respiration, Bristol Univ., Bristol BS8 1UG, England]

89-001707 Hwang, Pung-Pung and Ching-Mu Sun. PUTATIVE ROLE OF ADENOHYPOTHYSPHYSIS IN THE OSMOREGULATION OF TILAPIA LARVAE (*OREOCHROMIS MOSSAMBICUS*; TELEOSTEI): AN ULTRASTRUCTURE STUDY. *Gen. Comp. Endocrinol* 73(3):335-341. 1989. FR 34(2)

[Inst. Zool., Acad. Sinica, Nankang, Taipei, Taiwan 11529, China]

...CENTRARCHUS LABRAX GROWN IN
[ADAM, B.P. 1018, 97208 Fort France Cedex, Martinique]

89-001709 Kawatsu, Hiroshi and Kengo Kondo. PROTHROMBIN TIME OF COMMON CARP BLOOD. *Bull. Jpn. Soc. Sci. Fish.* 55(1):183. 1989. In English. FR 34(2)
[Dep. Fish., Fac. Agric., Miyazaki Univ., Gakuen-Kibanadai, Miyazaki 889-21, Japan]
Cyprinus carpio.

89-001710 Ketola, H. George; D. Longacre; A. Greulich; L. Phetterplace and R. Lashomb. HIGH CALCIUM CONCENTRATION IN WATER INCREASES MORTALITY OF SALMON AND TROUT EGGS. *Prog. Fish-Cult.* 50(3):129-135. 1988. FR 34(2)
[U.S. Fish & Wildl. Serv., Tunison Lab. Fish Nutr., 3075 Gracie Rd., Cortland, N.Y. 13045]
Salmo salar, *Oncorhynchus mykiss*, and *Salvelinus fontinalis*.

89-001711 Kobayashi, Makito; Katsumi Aida and Isao Hanyu. INDUCTION OF GONADOTROPIN SURGE BY STEROID HORMONE IMPLANTATION IN OVARECTOMIZED AND SEXUALLY REGRESSED FEMALE GOLDFISH. *Gen. Comp. Endocrinol.* 73(3):469-476. 1989. FR 34(2)
[Aida: Dep. Fish., Fac. Agric., Univ. Tokyo, Bunkyo, Tokyo 113, Japan] *Carassius auratus*.

89-001712 Kolok, Alan S. DOES TEMPERATURE ACCLIMATION OCCUR IN FISHES WHICH ARE SEASONALLY INACTIVE IN COLD WATER? *Am. Zool.* 28(4):129A. 1988. Abstract only. FR 34(2)
[Univ. Colo., Boulder 80309] *Lepomis cyanellus* and *Micropterus dolomieu*.

89-001713 Kumazawa, Takeshi; Hiroshi Seno and Osamu Suzuki. SEMICARBAZIDE-SENSITIVE AMINE OXIDASE ACTIVITY IN CATFISH TISSUES. *Comp. Biochem. Physiol.* 92(2):347-349. 1989. FR 34(2)
[Dep. Legal Med., Hamamatsu Univ. School Med., Hamamatsu 431-31, Japan] *Parasilurus asotus*.

89-001714 Kuo, Ching-Ming; Yun-Yen Ting and Shin-Lih Yeh. INDUCED SEX REVERSAL AND SPAWNING OF BLUE-SPOTTED GROUPER, *EPINEPHELUS FARIO*. *Aquaculture* 74(1/2):113-126. 1988. FR 34(2)
[Inst. Fish. Sci., Natl. Taiwan Univ., Taipei, Taiwan]

89-001715 LaFleur, G. J., Jr. and P. Thomas. EVIDENCE FOR THE PARTICIPATION OF MONOVALENT ION CHANNELS IN THE HYDRATION OF OOCYTES IN MARINE FISHES. *Am. Zool.* 28(4):160A. 1988. Abstract only. FR 34(2)
[Univ. Tex. Mar. Sci. Inst., Port Aransas] *Micropogonias undulatus*.

89-001716 Lahlou, B.; B. Fossat; J. Porthe-Nibelle; L. Bianchini and M. Guibolini. INHIBITORY EFFECT OF NEUROHYPOPHYSIAL PEPTIDES ON CYCLIC AMP ACCUMULATION BY ISOLATED HEPATOCYTES OF THE TROUT. *J. Endocrinol.* 119(3):439-445. 1988. FR 34(2)
[Lab. Physiol. Cell. & Comp. & UA CNRS 651, Fac. Sci., Parc Valrose, 06034 Nice Cedex, France] *Oncorhynchus mykiss*.

89-001717 Lane, Hugo C.

28(4):144A. 1988. Abstract only. FR 34(2)
[Pac. Northwest Lab., Richland, WA]

89-001720 Levanduski, M. J. and J. G. Cloud. RAINBOW TROUT (*SALMO GAIRDNERI*) SEMEN: EFFECT OF NON-MOTILE SPERM ON FERTILITY. *Aquaculture* 75(1/2):171-178. 1988. FR 34(2)

[Cloud: Dep. Biol. Sci. & Univ. Idaho Aquacult. Program, Univ. Idaho, Moscow 83843]

89-001721 Lewis, Richard J. and R. Endean. CIGUATOXIN FROM THE FLESH AND VISCERA OF THE BARRACUDA, *SPHYRAENA JELLO*. *Toxicon* 22(5):805-810. 1984. FR 34(2)
[Dep. Zool., Univ. Queensland, St. Lucia, Brisbane, Qld. 4067, Australia]

89-001722 Li, Xingfu; Endre Jenssen and Hans Jorgen Fyhn. EFFECTS OF SALINITY ON EGG SWELLING IN ATLANTIC SALMON (*SALMO SALAR*). *Aquaculture* 76(3/4):317-324. 1989. FR 34(2)

[Fyhn: Zool. Lab., Univ. Bergen, N-5000 Bergen, Norway]

89-001723 Lim, A. L. L. and Y. K. Ip. EFFECT OF FASTING ON GLYCOGEN METABOLISM AND ACTIVITIES OF GLYCOLYTIC AND GLUCONEOGENIC ENZYMES IN THE MUDSKIPPER, *BOLEOPHTHALMUS BODDAERTI*. *J. Fish Biol.* 34(3):349-367. 1989. FR 34(2)

[Dep. Zool., Natl. Univ. Singapore, Kent Ridge, Singapore 0511]

89-001724 Lin, Richard J.; Thomas F. Cross; Christopher P. R. Mills; Richard Nishioka; E. Gordon Grau and Howard A. Bern. CHANGES IN PLASMA THYROXINE LEVELS DURING SMOLTIFICATION IN HATCHERY-REARED ONE-YEAR AND TWO-YEAR ATLANTIC SALMON (*SALMO SALAR*). *Aquaculture* 74(3/4):369-378. 1988. FR 34(2)

[Bern: Dep. Zool. & Cancer Res. Lab., Univ. Calif., Berkeley 94720]

89-001725 Lin, Y.-W. P. and R. A. Wallace. CHROMATOGRAPHIC ISOLATION AND IDENTIFICATION OF *FUNDULUS HETEROCLITUS* GONADOTROPIN(S). *Am. Zool.* 28(4):121A. 1988. Abstract only. FR 34(2)

[Univ. Fla., Whitney Lab., St. Augustine]

89-001726 Loewe, H. and R. Eckmann. THE ONTOGENY OF THE ALIMENTARY TRACT OF COREGONID LARVAE: NORMAL DEVELOPMENT. *J. Fish Biol.* 33(6):841-850. 1989. FR 34(2)

[Max-Planck-Inst. f. exp. Med., Abteilung Physiologie, Hermann-Rein-Str. 3, D-34109 Goettingen, West Germany] *Coregonus fera*.

89-001727 Londraville, R. L. QUANTITATIVE ULTRASTRUCTURAL DIFFERENCES BETWEEN AEROBIC MUSCLE FROM TWO ANTARCTIC FISHES, *TREMATOMUS NEWNESI* AND *NOTOTHENIA GIBBERIFRONS*. *Am. Zool.* 28(4):60A. 1988. Abstract only.

- 89-001728 Lovejoy, D. A. and N. M. Sherwood. GONADOTROPIN-RELEASING HORMONE RATFISH (*HYDROLAGUS COLLIEI*): DISTRIBUTION BETWEEN THE SEXES AND POSSIBLE RELATIONSHIP WITH CHICKEN II AND SALMON II FORMS. *Comp. Biochem. Physiol. Comp. Biochem.* 92(1):111-118. 1989. FR 34(2)
[Dep. Biol., Univ. Victoria, Victoria, BC, Canada V8W 2Y2]
- 89-001729 Lovell, Tom. NUTRITION AND FEEDING OF FISH. *Van Nostrand Reinhold (N. York)* 260p. 1989. FR 34(2)
- 89-001730 Lowery, Mary Sue. CHANGES IN MUSCLE BIOCHEMISTRY ASSOCIATED WITH METAMORPHOSIS OF DOVER SOLE, *MICROSTOMUS PACIFICUS*, LARVAE. *Am. Zool.* 28(4):42A. 1988. Abstract only. FR 34(2)
[Natl. Mar. Fish. Serv., Southwest Fish. Cent., La Jolla, CA]
- 89-001731 Lubin, R. T.; A. W. Rourke and T. M. Bradley. ULTRASTRUCTURAL ALTERATIONS IN BRANCHIAL CHLORIDE CELLS OF ATLANTIC SALMON, *SALMO SALAR* DURING PARR-SMOLT TRANSFORMATION AND EARLY DEVELOPMENT IN SEA WATER. *J. Fish Biol.* 34(2):259-272. 1989. FR 34(2)
[Dep. Biol. Sci., Univ. Idaho, Moscow 83843]
- 89-001732 Lythgoe, J. N. and Julia Shand. THE STRUCTURAL BASIS FOR IRIDESCENT COLOUR CHANGES IN DERMAL AND CORNEAL IRIDOPHORES IN FISH. *J. Exp. Biol.* 141:313-325. 1989. FR 34(2)
[Dep. Zool., Univ. Bristol, Woodland Rd., Bristol BS8 1UG, England] *Parachelodon innesi* and *Pomatoschistus minutus*.
- 89-001733 MacKenzie, D. S.; S. P. Haynes and J. W. McKee. SEASONAL PATTERNS OF THYROID HORMONE PLASMA PROTEIN BINDING IN THE CHANNEL CATFISH. *Am. Zool.* 28(4):149A. 1988. Abstract only. FR 34(2)
[Tex. A&M Univ., College Station 77843] *Ictalurus punctatus*.
- 89-001734 Makos, Bruce K. and John H. Youson. SERUM LEVELS OF BILIRUBIN AND BILIVERDIN IN THE SEA LAMPREY, *PETROMYZON MARINUS* L., BEFORE AND AFTER THEIR BILIARY ATRESIA. *Comp. Biochem. Physiol. A Comp. Physiol.* 87(3):761-764. 1987. FR 34(2)
[Youson: Div. Life Sci., Scarborough Campus, 126 Military Trail, Scarborough, ON, Canada M1C 1A4]
- 89-001735 Marchant, Tracy A.; Joseph G. Dulka and Richard E. Peter. RELATIONSHIP BETWEEN SERUM GROWTH HORMONE LEVELS AND THE BRAIN AND PITUITARY CONTENT OF IMMUNOREACTIVE SOMATOSTATIN IN THE GOLDFISH, *CARASSIUS AURATUS* L. *Gen. Comp. Endocrinol.* 73(3):458-468. 1989. FR 34(2)
[Peter: Dep. Zool., Univ. Alberta, Edmonton, AB, Canada T6G 2E9]
- 89-001736 Marte, Clarissa L.; Laurence W. Crim and Nancy M. Sherwood. INDUCED GONADAL MATURATION AND REMATURATION IN MILKFISH: LIMITED SUCCESS WITH CHRONIC ADMINISTRATION OF TESTOSTERONE AND GONADOTROPIN-RELEASING HORMONE ANALOGUES (GnRH-A). *Aquaculture* 74(1/2):131-145. 1988. FR 34(2)
[Aquacult. Dep., Southeast Asian Fish. Dev. Cent., P.O. Box 2, Philippines] *Chanos chanos*.

92(2):263-266. 1989. FR 34(2)

[Div. Physiol., Dep. Zool., Univ. Helsinki, Arkadiankatu 7, SF-00100 Helsinki, Finland]

89-001739 Maule, A. G.; R. A. Tripp; S. L. Kaattari and C. B. Schreck. STRESS AND IMMUNE FUNCTION AND DISEASE RESISTANCE IN CHINOOK SALMON (*ONCORHYNCHUS Tshawytscha*). *J. Endocrinol.* 120(1):135-142. 1989. FR 34(2)

[Coop. Fish. Res. Unit, Dep. Fish. & Wildl., Oreg. State Univ., Corvallis 97331]

89-001740 McFall-Ngai, Margaret; Lin Ding; James Childress and Joseph Hor. BIOCHEMICAL CHARACTERISTICS OF THE PIGMENTATION OF MESOPELAGIC LENSES. *Biol. Bull. (Woods Hole)* 175(3):397-402. 1988. FR 34(2)

[Dep. Biol. Sci., Univ. South. Calif., Los Angeles 90089-0371] *Macropinna microstichus*, *Dolichopteryx* spp., *Benthalbella dentata*, *B. infans*, and *Scopelarchus* spp.

89-001741 Mensinger, A. F. and J. F. Case. DUAL ROLE OF THE ORBITAL PHOTOPHOSPHORYLATION IN THE STOMATOPODE FISH, *MALACOSTEUS NIGER*. *Am. Zool.* 28(4):90A. 1988. Abstract only. FR 34(2)

[Univ. Calif., Santa Barbara 93106]

89-001742 Mester, Lotu and Dragos Scripcariu. [HISTOCHEMICAL LOCALIZATION OF ARYL SULFATASE IN THE OVARY OF SOME TELEOSTEAN FISHES.] *Stud. Cercet. Ser. Biol. Anim.* 40(1):61-64. 1988. In Romanian with English summ. FR 34(2)

[Fac. Biol., Geol., Geogr., Univ. Bucharest, Bucharest, Splaiul Independentei nr. 91 Romania] *Stizostedion luciopeperca*, *Perca fluviatilis*, and *Umbra krameri*.

89-001743 Metcalfe, J. D. and P. J. Butler. THE USE OF ALPHA-METHYL-*p*-TYROSINE AS A CONTROL FOR CIRCULATING CATECHOLAMINES IN THE DOGFISH *SCYLIORHINUS CANICOLA*. THE EFFECTS ON GAS EXCHANGE IN NORMOXIA AND HYPOXIA. *J. Exp. Biol.* 141:21-29. 1989. FR 34(2)

[Minist. Agric., Fish. & Food, Fish. Lab., Lowestoft, Suffolk NR33 0HT, England]

89-001744 Moodie, G. E. E.; N. L. Loadman; M. D. Wiegand and J. A. Math. INFLUENCE OF EGG CHARACTERISTICS ON SURVIVAL, GROWTH AND FEEDING OF LARVAL WALLEYE (*STIZOSTEDION VITREUM*). *Can. J. Fish. Aquat. Sci.* 46(3):516-524. 1989. In English with French summ. FR 34(2)

[Dep. Biol., Univ. Winnipeg, Winnipeg, MB, Canada R3B 2E9]

Aquat. Sci. 46(1):122-130, 1989. In English with French summ. FR 34(2)
[Dep. Biol., Div. Gen. Physiol., Univ. Oslo, P.O. Box 1051 Blindern, 0316 Oslo 3, Norway]

89-001747 Morin, Pierre-Philippe; Julian J. Dodson and Francois Y. Dore. THYROID ACTIVITY CONCOMITANT WITH OLFACTORY LEARNING AND HEART RATE CHANGES IN ATLANTIC SALMON, *SALMO SALAR*, DURING SMOLTIFICATION. *Can. J. Fish. Aquat. Sci.* 46(1):131-136, 1989. In English with French summ. FR 34(2)

[Dep. Biol., Div. Gen. Physiol., Univ. Oslo, P.O. Box 1051 Blindern, 0316 Oslo 3, Norway]

89-001748 Mugiya, Yasuo and Fumitomo Odawara. EFFECTS OF HYPOPHYSECTOMY AND REPLACEMENT THERAPY WITH OVINE PROLACTIN ON SERUM CALCIUM LEVELS, AND CALCIFICATION IN OTOLITHS AND SCALES IN GOLDFISH. *Bull. Jpn. Soc. Sci. Fish.* 54(12):2079-2083, 1988. In English. FR 34(2)

[Fac. Fish., Hokkaido Univ., Minato, Hakodate 041, Japan] *Carassius auratus*.

89-001749 Muje, P.; J. J. Agren; O. V. Lindqvist and O. Hanninen. FATTY ACID COMPOSITION OF VENDACE (*COREGONUS ALBULA* L.) MUSCLE AND ITS PLANKTON FEED. *Comp. Biochem. Physiol. B Comp. Biochem.* 92(1):75-79, 1989. FR 34(2)

[Dep. Appl. Zool. & Physiol., Univ. Kuopio, P.O. Box 6, 70211 Kuopio, Finland]

89-001750 Mukundan, M. K. and K. Devadasan. NUTRITIONAL EVALUATION OF SOME DEEP-SEA FISHES. *Indian J. Anim. Sci.* 58(9):1131-1134, 1988. FR 34(2)

[Dep. Processing Technol., Biochem. & Nutr., Coll. Fish., Kerala Agric. Univ., Panangad, Cochin 682 506, India]

89-001751 Mullin, M. M. and E. R. Brooks. EXTRACTABLE LIPOFUSCIN IN LARVAL MARINE FISH. *U.S. Natl. Mar. Fish. Serv. Fish. Bull.* 86(2):407-415, 1988. FR 34(2)

[Inst. Mar. Resour., Scripps Inst. Oceanogr., Univ. Calif. (San Diego), La Jolla 92093-0218] *Leuresthes tenuis*, *Atractosteon nobilis*, and *Paralichthys californicus*.

89-001752 Murad, A. and A. H. Houston. LEUCOCYTES AND LEUCOPOIETIC CAPACITY IN GOLDFISH, *CARASSIUS AURATUS*, EXPOSED TO SUBLETHAL LEVELS OF CADMIUM. *Aquat. Toxicol. (Amst.)* 13(2):141-154, 1988. FR 34(2)

[Houston: Dep. Biol. Sci., Brock Univ., St. Catharines, ON, Canada L2S 3A1]

89-001753 Nakagawa, Hisaki and Shinya Ishio. [PROPERTIES AS A CATION EXCHANGER OF CHORIONS OF MEDAKA *ORYZIAS LATIPES* AND RAINBOW TROUT *SALMO GAIARDNERI*. *Bull. Jpn. Soc. Sci. Fish.* 55(1):123-129, 1989. In Japanese with English summ. FR 34(2)

[Dep. Fish., Fac. Agric., Kyushu Univ., Hakozaki, Higashi, Fukuoka 812, Japan]

89-001754 Nakagawa, T. and F. Nagayama. ENZYMATIC PROPERTIES OF FISH MUSCLE ALDOLASE. *Comp. Biochem. Physiol. B Comp. Biochem.* 92(2):405-410, 1989. FR 34(2)

[Dep. Food Sci. & Technol., Tokyo Univ. Fish., Konan-4, Minato-ku, Tokyo 108, Japan] *Scomber japonicus*, *Cyprinus carpio*, and *Pagrus major*.

INDUCED BY LEEA. *J. Jpn. Soc. Sci. Fish.* 55(1): 143-146. 1989. In English. FR 34(2)
[Fac. Fish., Mie Univ., Tsu 594, Japan] Data for 11 species.

89-001705 Nymn, Robert M. and David O. Conover. THE RELATION BETWEEN SPAWNING SEASON AND THE RECRUITMENT OF YOUNG-OF-THE-YEAR BLUEFISH, *POMATOMUS SALTATRIX*, TO NEW YORK U.S. Natl. Mar. Fish. Serv. *Fish. Bull.* 86(2):237-250. 1988. FR 34(2)

[Chesapeake Biol. Lab., Univ. Md., Solomons 20688]

89-001706 O'Riordan, M. M. and R. E. Peirce. THE OCCURRENCE OF A GYANODONTOPHILIC MIGRATORY TROUT, *SALMO TRUTTA* L. *J. Fish Biol.* 34(2):327. 1989. FR 34(2)

[Zool. Dept., Trinity Coll., Dublin 2, Ireland]

89-001707 Olaf, T., A. Westman and A. von der Decken. TIME- AND TEMPERATURE-DEPENDENT APPEARANCE OF VITELLOGENIN IN GOLGI VESICLES AND SERUM AFTER ESTROGEN TREATMENT OF SALMON (*SALMO SALAR*). *J. Exp. Zool.* 249(2):213-220. 1989. FR 34(2)

[von der Decken, Wenner-Gren Inst. Biol. F3, Univ. Stockholm, S-106 91 Stockholm, Sweden]

89-001708 Opatowicz, S. and W. S. Leibel. LACTATE DEHYDROGENASE POLYMORPHISM IN NATURAL AND CULTIVATED POPULATIONS OF THE ANGELFISH CICHLID, *PTEROPHYLLUM SCALARE*. *Am. Zool.* 28(4) 50A. 1988. Abstract only. FR 34(2)

[Lafayette Coll., Easton, PA 18042]

89-001709 Ostrowski, Anthony C. and Donald L. Garling, Jr. INFLUENCES OF ANABOLIC HORMONE TREATMENT AND DIETARY PROTEIN: ENERGY RATIO ON CONDITION AND MUSCLE DEPOSITION OF RAINBOW TROUT. *Prog. Fish-Cult.* 50(3):136-140. 1988. FR 34(2)

[Oceanic Inst., Makapuu Point, Waimanalo, HI 96795]

89-001710 Parker, D. B. and B. A. McKeown. EFFECTS OF pH AND/OR CALCIUM-ENRICHED FRESHWATER ON PLASMA LEVELS OF VITELLOGENIN AND Ca^{2+} AND ON BONE CALCIUM CONTENT DURING EXOGENOUS VITELLOGENESIS IN RAINBOW TROUT (*SALMO GAIRDNERI*). *Comp. Biochem. Physiol. A Comp. Physiol.* 87(2):267-273. 1987. FR 34(2)

[Dep. Biol. Sci., Simon Fraser Univ., Burnaby, BC, Canada V5A 3S6]

89-001711 Parker, S. J. and J. L. Specker. THYROIDAL RESPONSE TO CHANGES IN SALINITY AND TEMPERATURE IN STRIPED BASS. *Am. Zool.* 28(4):148A. 1988. Abstract only. FR 34(2)

[Univ. R. I., Kingston 02831] *Morone saxatilis*.

89-001712 Patino, R. and P. Thomas. MEASUREMENT AND CHARACTERIZATION OF BINDING ACTIVITY FOR THE MATURATION-INDUCING STEROID IN PLASMA MEMBRANE PREPARATIONS FROM SPOTTED SEATROUT OVARY. *Am. Zool.* 28(4):53A. 1988. Abstract only. FR 34(2)

[Univ. Tex. Mar. Sci. Inst., Port Aransas] *Cynoscion nebulosus*.

75. HANSEN WITH CEPHALOPOLIA RUBESCENS L. J. *Exp. Mar. Biol. Ecol.* 124(1): 31-42, 1988
[Physiol., Ruhr-Univ. Bochum, Universitätsstr. 150, 4630 Bochum, West Germany]
76. Felster, B.; C. R. Bridges and M. K. Grieshaber. RESPIRATORY ADAPTATIONS OF THE BURROWING MARINE TELEOST *LUMPNUS LAMPETIFORMIS* (L.) II. METABOLIC ADAPTATIONS. *J. Exp. Mar. Biol. Ecol.* 124(1): 43-55, 1988
[Physiol., Ruhr-Univ. Bochum, Universitätsstr. 150, 4630 Bochum, West Germany]
77. Peter, M. G., Sushash and Gomanen V. Gomanen. OXIDATIVE METABOLISM IN A TELEOST, *ANABAS TESTUDINEUS* BLOCH: EFFECT OF THYROID HORMONES ON LIPID METABOLIC ACTIVITIES. *Gen. Comp. Endocrinol.* 73(1): 96-107, 1989. FR 34(2)
[Physiol. Dep. Zool., Univ. Kerala, Karyavattom, Trivandrum 695 591, India]
78. Petrino, T. R.; M. S. Greeley, Jr.; K. Schwan, Y. W. P. Lin and R. A. Anderson. STEROID PRODUCTION BY THE VARIOUS COMPONENTS OF THE *LUMPNUS LAMPETIFORMIS* OVARIAN FOLLICLES. *Am. Zool.* 28(3): 146A, 1988. Abstract only. [Univ. Fla., Whitney Lab., St. Augustine]
79. Petrino, Teresa R.; Yu-Wai Peter Lin and Robin A. Wallace. STEROIDOGENESIS BY THE OVARIAN FOLLICLES OF *LUMPNUS LAMPETIFORMIS*. I. PRODUCTION OF 17α -HYDROXY, 20α -HYDROXY, AND 17β -ESTRADIOL BY PREMATURATIONAL FOLLICLES *IN VITRO*. *Gen. Comp. Endocrinol.* 73(1): 147-156, 1989. FR 34(2)
[Whitney Lab., Univ. Fla., St. Augustine 32086]
80. Peyraud-Wartzenegger, Marguerite and Philippe Loulier. VENTILATORY AND METABOLIC ADJUSTMENTS IN THE EUROPEAN EEL (*ANGUILLA ANGUILLA* L.) EXPOSED TO SHORT TERM HYPOXIA. *J. Exp. Biol. (Paris)* 58(2): 207-222, 1989. FR 34(2)
[Physiol. Anim., Fac. Sci. & Techniques, Univ. Bretagne Occidentale, 6 Ave. Le Gorgeu, F-29287 Brest Cedex, France]
81. Pezzomonte, Leo; Hugh C. Nickson; Robert C. Dunn and Ronald J. Bradley. EFFECT OF ACETYLCHOLINESTERASE FROM THE SKELETAL MUSCLE OF THE TELEOST OF THE LAMPREY *PETROMYZON MARINUS* ON THE RELEASE OF ACETYLCHOLINE. *Comp. Biochem. Physiol. B Comp. Biochem. Physiol.* 92(2): 385-387, 1989. FR 34(2)
[Univ. Ala., Birmingham-South. Coll., Arkadelphia Rd., Birmingham, AL 35264]
82. Plaza-Yglesias, Margarita; Idemaro Lopez and Francisco C. Herrera. OSMOTIC ADAPTATION OF AQUEOUS HUMOR AND BLOOD IN THE EURYHALINE FISH, *THERRIS* (PISCES). *Comp. Biochem. Physiol. A Comp. Physiol.* 92(2): 195-196, 1989. FR 34(2)
[Labor. Lab. Ecofisiol. Anim., Cent. Biología & Bioquím., Inst. Venezolano Investigaciones, Apdo. 21627, Caracas 1020A, Venezuela]

DEGCADU-VERRE, L. F. 1989. FR 34(2)
73(2):205-216. 1989. FR 34(2)
[Dep. Zool., Univ. Wash., Seattle 98195] *Oncorhynchus kisutch* and *O. tshawytscha*.

89-001783 Plisetzkaya, Erika M.; Mark A. Sheridan and Thomas P. Mommsen. METABOLIC CHANGES IN COHO AND CHINOOK SALMON RESULTING FROM ACUTE INSUFFICIENCY OF PANCREATIC HORMONES. *J. Exp. Zool.* 249(2):158-164. 1989. FR 34(2)
[Dep. Zool., Univ. Wash., Seattle 98195] *Oncorhynchus kisutch* and *O. tshawytscha*.

89-001784 Pontet, A.; J. M. Danger; P. Dubourg; G. Pelletier; H. Vaudry; A. Calas and O. Kah. DISTRIBUTION AND CHARACTERIZATION OF NEUROPEPTIDE Y-LIKE IMMUNOREACTIVITY IN THE BRAIN AND PITUITARY OF THE GOLDFISH. *Cell Tissue Res.* 255(3):529-538. 1989. FR 34(2)
[Kah: Lab. Physiol. Cell. & Comp., Parc Valrose, F-06034 Nice Cedex, France] *Carassius auratus*.

89-001785 Poston, Hugh A. RESPONSE OF RAINBOW TROUT TO SOURCE AND LEVEL OF SUPPLEMENTAL DIETARY METHIONINE. *Comp. Biochem. Physiol. A Comp. Physiol.* 83(4):739-744. 1986. FR 34(2)
[Tunison Lab. Fish Nutr., U S. Fish & Wildl. Serv., 28 Grace Rd., Cortland, NY 13045]

89-001786 Priyono, A.; Tridjoko; I. Nyoman Adismara Giri; A. Poernomo; W. E. Vanstone; C. Lim and T. Daulay. NATURAL SPAWNING AND LARVAL REARING OF MILKFISH IN CAPTIVITY IN INDONESIA. *Aquaculture* 74(1/2):127-130. 1989. FR 34(2)
[Res. Stn. Coastal Aquacult., Gondol, Bali, Indonesia] *Chanos chanos*.

89-001787 Pusey, B. J. AESTIVATION IN THE TELEOST FISH *LEPIDOGALAXIA SALAMANDROIDES* (MEES). *Comp. Biochem. Physiol. A Comp. Physiol.* 92(1):137-138. 1989. FR 34(2)
[Cent. Catchment & In-stream Res., Griffith Univ., Nathan, Qld. 4111, Australia]

89-001788 Quintio, G. F.; H. Takahashi and A. Goto. ANNUAL CHANGES IN THE TESTICULAR ACTIVITY OF THE RIVER SCULPIN, *COTTUS HANGIONGENSIS* MORI, WITH EMPHASIS ON THE OCCURRENCE OF ABERRANT SPERMATIDS DURING SPERMATOGENESIS. *J. Fish Biol.* 33(6):871-878. 1988. FR 34(2)
[Dep. Biol., Fac. Fish., Hokkaido Univ., Hakodate 041, Japan]

89-001789 Radtke, Richard L. STRONTIUM-CALCIUM CONCENTRATION RATIOS IN FISH OTOLITHS AS ENVIRONMENTAL INDICATORS. *Comp. Biochem. Physiol. A Comp. Physiol.* 92(2):189-193. 1989. FR 34(2)
[Oceanic Biol., Inst. Geophysics, Univ. Hawaii, Honolulu 96822] *Fundulus heteroclitus*.

89-001790 Rand-Weaver, Mariann; Bernt T. Walther and Hiroshi Kawauchi. ISOLATION AND CHARACTERIZATION OF GROWTH HORMONE FROM ATLANTIC COD (*GADUS MORHUA*). *Gen. Comp. Endocrinol.* 73(2):260-269. 1989. FR 34(2)
[Dep. Biochem., Univ. Bergen, Arstadveien 19, 5009 Bergen, Norway]

89-001792 Rosenblum, Paul M. and Richard E. Peter. EVIDENCE FOR THE INVOLVEMENT OF ENDOGENOUS OPIOIDS IN THE REGULATION OF GONADOTROPIN SECRETION IN MALE GOLDFISH, *CARASSIUS AURATUS*. *Gen. Comp. Endocrinol.* 73(1):21-27. 1989. FR 34(1)
[H. M. Freeman Aquat. Biol. Cent., Southwest Tex. State Univ., San Marcos 78666]

89-001793 Rosenthal, B.; D. Klumpp and J. Willfuhr. INFLUENCE OF SPERM DENSITY AND CONTACT TIME ON HERRING EGG FERTILIZATION. *J. Appl. Ichthyol.* 4(2):79-86. 1988. In English with German and French summ. FR 34(2)
[Biol. Anstalt Helgoland, Notkestr. 31, 2000 Hamburg 52, West Germany] *Clupea harengus*.

89-001794 Rubin, D. A. and J. L. Specker. REGULATION OF TESTIS FUNCTION IN TILAPIA BY HOMOLOGOUS PROLACTINS. *Am. Zool.* 28(4):55A. 1988. Abstract only. FR 34(2)
[Univ. R.I., Kingston 02881] *Tilapia mossambica*.

89-001795 Rutledge, C. Jerry and Thomas L. Beutinger. THE EFFECTS OF DISSOLVED OXYGEN AND AQUATIC SURFACE RESPIRATION ON THE CRITICAL THERMAL MAXIMA OF THREE INTERMITTENT-STREAM FISHES. *Environ. Biol. Fishes* 24(2):137-143. 1989. FR 34(2)
[Div. Environ. Sci., Dep. Biol. Sci., N. Tex. State Univ., Denton 76201] *Fundulus notatus*, *Notropis lutrensis*, and *Pimephales vigilax*.

89-001796 Rydevik, M. EPIDERMIS THICKNESS AND SECONDARY SEXUAL CHARACTERISTICS IN MATURE MALE AND IMMATURE BALTIC SALMON, *SALMO SALAR* L., PARR: SEASONAL VARIATIONS AND EFFECTS OF CASTRATION AND ANDROGEN TREATMENT. *J. Fish Biol.* 33(6):941-944. 1988. FR 34(2)
[Dep. Zool., Univ. Stockholm, S-106 91 Stockholm, Sweden]

89-001797 Saeki, Hiroki; Michio Nonaka; Hirohisa Ozaki and Ken-ichi Arai. [EFFECT OF CaCl_2 ON THE WATER-HOLDING CAPACITY OF SKIPJACK MYOFIBRILS AND ON ITS THERMAL STABILITY.] *Bull. Jpn. Soc. Sci. Fish.* 54(12):2195-2202. 1988. In Japanese with English summ. FR 34(2)
[Taiyo Res. Lab., Taiyo Fish. Co. & Ltd., Tsukishima, Chuo, Tokyo 104, Japan] *Euthynnus pelamis*.

89-001798 Safford, S. E. and P. Thomas. PURIFICATION OF PROLACTIN FROM THE ATLANTIC CROAKER (*MICROPOGONIAS UNDULATUS*). *Am. Zool.* 28(4):121A. 1988. Abstract only. FR 34(2)
[Univ. Tex. Mar. Sci. Inst., Port Aransas]

89-001799 Sato, Kenji; Reiji Yoshinaka; Yoshiaki Itoh and Mamoru Sato. MOLECULAR SPECIES OF COLLAGEN IN THE INTRAMUSCULAR CONNECTIVE TISSUE OF FISH. *Comp. Biochem. Physiol. B Comp. Biochem.* 92(1):87-91. 1989. FR 34(2)
[Dep. Fish., Fac. Agric., Kyoto Univ., Sakyo-ku, Kyoto 606, Japan] *Cyprinus carpio*, *Entopneustes japonicus*, *Mustelus manazo*, *Anguilla japonica*, *Squalius elongata*, *Huso huso* and *Acipenser ruthenus*.

89-001802 Schneider, Mark J. and Thomas J. Connors. EFFECTS OF ELEVATED WATER TEMPERATURE ON THE CRITICAL SWIM SPEEDS OF YEARLING RAINBOW TROUT, *SALMO GAIARDNERI*. *J. Therm. Biol.* 7(4):227-229. 1982. FR 34(2)

[Northwest Power Planning Council, 709 SW Taylor, Suite 200, Portland, OR 90275]

89-001803 Schulte, Patricia M.; N. E. (Ted) Down; Edward M. Donaldson and Lawrence M. Souza. EXPERIMENTAL ADMINISTRATION OF RECOMBINANT BOVINE GROWTH HORMONE TO JUVENILE RAINBOW TROUT (*SALMO GAIARDNERI*) BY INJECTION OR BY IMMERSION. *Aquaculture* 76(1/2):145-156. 1989. FR 34(2)

[Donaldson: W. Vancouver Lab., Biol. Sci. Branch, Dep. Fish. & Oceans, W. Vancouver, BC, Canada V7V 1N6]

89-001804 Scott, A. P. and J. P. Sumpter. SEASONAL VARIATIONS IN TESTICULAR GERM CELL STAGES AND IN PLASMA CONCENTRATIONS OF SEX STEROIDS IN MALE RAINBOW TROUT (*SALMO GAIARDNERI*) MATURING AT 2 YEARS OLD. *Gen. Comp. Endocrinol.* 73(1):46-58. 1989. FR 34(2)

[MAFF, Dir. Fish. Res., Fish. Lab., Lowestoft, Suffolk NR33 0HT, England]

89-001805 Scully, R. J. and E. Buettner. SMOLT CONDITION AND TIMING OF ARRIVAL AT LOWER GRANITE RESERVOIR: ANNUAL REPORT FOR 1985 OPERATIONS. *Idaho Dep. Fish Game DOE/BP/11631-2*. 78p. 1988. From U.S. Government Reports 88(21)-20. 1988. Available from NTIS as DE88008494/GAR. FR 34(2)

89-001806 Sheridan, M. A. and E. M. Plisetskaya. EFFECTS OF NUTRITIONAL STATE ON LIPID AND CARBOHYDRATE METABOLISM OF COHO SALMON. *Am. Zool.* 28(4):56A. 1988. Abstract only. FR 34(2)

[N.D. State Univ., Fargo 58105] *Oncorhynchus kisutch*.

89-001807 Sherwood, Nancy M.; L. W. Crim; J. Carolsfeld and Sandra M. Walters. SUSTAINED HORMONE RELEASE. I. CHARACTERISTICS OF IN VITRO RELEASE OF GONADOTROPIN-RELEASING HORMONE ANALOGUE (GnRH-A) FROM PELLETS. *Aquaculture* 74(1/2):75-86. 1988. FR 34(2)

[Dep. Biol., Univ. Victoria, Victoria, BC, Canada V8W 2Y2]

89-001808 Shiomi, Kazuo; Mitsuru Takamiya; Hideaki Yamanaka; Takeaki Kikuchi and Yuzuru Suzuki. TOXINS IN THE SKIN SECRETION OF THE ORIENTAL CATFISH (*PLOTOSUS LINEATUS*): IMMUNOLOGICAL PROPERTIES AND IMMUNOCYTOCHEMICAL IDENTIFICATION OF PRODUCING CELLS. *Toxicon* 26(4):353-361. 1988. FR 34(2)

[Dep. Food Sci. & Technol., Tokyo Univ. Fish., Tokyo 108, Japan]

89-001809 Shiomi, Kazuo; Hakaru Inaoka; Hideaki Yamanaka and Takeaki Kikuchi. DETECTION OF TETRODOTOXIN-LIKE COMPOUNDS IN TWO SPECIES OF PUFFER FISHES (*LAGOCEPHALUS LUNARIS LUNARIS* AND *FUGU NIPHOBLES*). *Toxicon* 23(2):331-336, 1985. FR 34(2)

[Lab. Food Hyg. Chem., Dep. Food Sci. & Technol., Tokyo Univ. Fish., Tokyo 108, Japan]

89-001810 Shiomi, Kazuo; Katsuyuki Nagai; Hideaki Yamanaka and Takeaki Kikuchi. INHIBITORY EFFECT OF ANTI-INFLAMMATORY AGENTS ON CUTANEOUS CAPILLARY LEAKAGE INDUCED BY SIX MARINE VENOMS. *Bull. Jpn. Soc. Sci. Fish.* 55(1):131-134, 1989. English. FR 34(2)

[Dep. Food Sci. & Technol., Tokyo Univ. Fish., Konan, Minato, Tokyo 108, Japan]
Synanceja verrucosa.

89-001811 Shiomi, Kazuo; Hideo Uematsu; Hideaki Yamanaka and Takeaki Kikuchi. PURIFICATION AND CHARACTERIZATION OF A GALACTOSE-BINDING LECTIN FROM THE SKIN MUCUS OF THE CONGER EEL *CONGER MYRIASTER*. *Comp. Biochem. Physiol. E Comp. Biochem.* 92(2):255-261, 1989. FR 34(2)

[Dep. Food Sci. & Technol., Tokyo Univ. Fish., Konan-4, Minato-ku, Tokyo 108, Japan]

89-001812 Siwicki, A. K. and M. Korwin-Kossakowski. THE INFLUENCE OF LEVAMISOLE ON THE GROWTH OF CARP (*CYPRINUS CARPIO* L.) LARVAE. *J. Appl. Ichthyol.* 4(4):178-181, 1988. In English with German and French summ. FR 34(2)

[Inland Fish. Inst., Dep. Pond Fish., Zabieniec, 05-500 Piaseczno, Poland]

89-001813 Smith, J. S. and P. Thomas. VARIATION OF HEPATIC ESTROGEN RECEPTOR CONCENTRATION DURING OVARIAN RECRUDESCENCE AND THE OVULATORY CYCLE OF THE SPOTTED SEATROUT, *CYNOSCIION NEBULOSUS*. *Am. Zool.* 28(4):54A, 1988. Abstract only. FR 34(2)

[Univ. Tex. Mar. Sci. Inst., Port Aransas]

89-001814 Smith, R. L.; J. M. Paul and A. J. Paul. GASTRIC EVACUATION IN WALLEYE POLLOCK, *THELAGRA CHALCOGRAMMA*. *Can. J. Fish. Aquat. Sci.* 46(3):489-493, 1989. In English with French summ. FR 34(2)

[Inst. Mar. Sci., Univ. Alaska, Fairbanks 99775-1080]

89-001815 Somoza, Gustavo M.; Kei L. Yu and Richard E. Peter. SEROTONIN STIMULATE GONADOTROPIN RELEASE IN FEMALE AND MALE GOLDFISH, *CARASSIUS AURATUS* L. *Gen. Comp. Endocrinol.* 72(3):374-382, 1988. FR 34(2)

[Dep. Zool., Univ. Alberta, Edmonton, AB, Canada T6G 2E9]

89-001816 Song, J. SOMATOTOPIC ORGANIZATION OF AFFERENT FIBERS AND EFFERENT NEURONS IN THE LATERAL LINE SYSTEM OF GARFISH (GINGLYMOID). *Am. Zool.* 28(4):90A, 1988. Abstract only. FR 34(2)

[Univ. Mich., Ann Arbor 48109-1115] *Lepisosteus platyrhincus*.

89-001817 Sower, S. A. and C. M. Fahien. CHANGES IN BRAIN GNRH, AND PLASMA ESTRADIOL-17 β , AND PROGESTERONE OF MALE SEA LAMPREYS, *PETROMYZON MARINUS*, DURING THEIR UPSTREAM MIGRATION. *Am. Zool.* 28(4):54A, 1988. Abstract only. FR 34(2)

89-001821 Subhedar, Nishikant and N. S. Rama Krishna. IMMUNOCYTOCHEMICAL LOCALIZATION OF LH-RH IN THE BRAIN AND PITUITARY OF THE CATFISH, *CLARIAS BATRACHUS* (LINN.). *Gen. Comp. Endocrinol.* 72(3):431-442, 1988. FR 34(2)
[Dep. Pharm. Sci., Nagpur Univ., Nagpur 440 010, India]

89-001822 Suedile, Steve. [GROWTH AND ORGANOGENESIS OF LARVAL *DICENTRARCHUS LABRAX* IN A TROPICAL ENVIRONMENT.] *Proc. Gulf Caribb. Fish. Inst.* 38:102-112, 1987. In French. FR 34(2)
[Aquamar S.A., Pointe-à-Pic, 97231 Le Robert, Martinique]

89-001823 Sureau, D.; J. P. Lagardere and J. P. Pennec. HEART RATE AND ITS CHOLINERGIC CONTROL IN THE SOLE (*SOLEA VULGARIS*), ACCLIMATIZED TO DIFFERENT TEMPERATURES. *Comp. Biochem. Physiol. A Comp. Physiol.* 92(1):49-51, 1989. FR 34(2)
[Cent. Recherche Ecol. Mar. & Aquacult., Houmeau, Case 5, 17137 Nieul-sur-Mer, France]

89-001824 Suzuki, Yuzuru and Takashi Hibiya. [DYNAMICS OF LEUCOCYTIC INFLAMMATORY RESPONSES IN CARP.] *Fish Pathol.* 23(3):179-184, 1988. In Japanese with English summ. FR 34(2)
[Dep. Fish., Fac. Agric., Univ. Tokyo, Bunkyo, Tokyo 113, Japan] *Cyprinus carpio*.

89-001825 Suzuki, Yuzuru; Makito Kobayashi; Osamu Nakamura; Katsumi Aida and Ise Hanyu. INDUCED OVULATION OF THE GOLDFISH BY ORAL ADMINISTRATION OF SALMON PITUITARY EXTRACT. *Aquaculture* 74(3/4):379-384, 1988. FR 34(2)
[Lab. Physiol., Fac. Agric., Univ. Tokyo, Bunkyo-ku, Tokyo 113, Japan] *Carassius auratus*.

89-001826 Swanson, C. ENERGETICS OF SALINITY ADAPTATION BY THE MILKFISH *CHANOS CHANOS*: EFFECTS ON ROUTINE OXYGEN CONSUMPTION AND ACTIVITY. *Am. Zool.* 28(4):106A, 1988. Abstract only. FR 34(2)
[Univ. Calif., Los Angeles 90024]

89-001827 Swanson, Penny and Walton W. Dickhoff. EFFECTS OF EXOGENOUS GONADA STEROIDS ON GONADOTROPINS I AND II IN JUVENILE COHO SALMON, *Oncorhynchus kisutch*. *Am. Zool.* 28(4):55A, 1988. Abstract only. FR 34(2)
[School Fish., Univ. Wash., Seattle 98195]

89-001828 Tachibana, Kazuo and Samuel H. Gruber. SHARK REPELLENT LIPOPHILIC CONSTITUENTS IN THE DEFENSE SECRETION OF THE MOSES SOLE (*Pardachirus marmoratus*). *Toxicon* 26(9):839-853, 1988. FR 34(2)
[Suntory Inst. Bioorganic Res., Shimamoto-cho, Osaka 618, Japan]

9-001829 Talbot, C. and W. T. W. Potts. OSMOREGULATION IN IMMATURE ATLANTIC SALMON (*SALMO SALAR* L.) FOLLOWING TRANSFER FROM SEA-WATER TO FRESH WATER. *Comp. Biochem. Physiol. A Comp. Physiol.* 92(2):235-239, 1989. FR 34(2)
[Freshwater Fish. Lab., Pitlochry, Perthshire PH16 5LB, Scotland]

9-001830 Talbot, C.; F. B. Eddy; W. T. W. Potts and D. R. N. Primmitt. REPRODUCTION IN MIGRATING ADULT ATLANTIC SALMON, *SALMO SALAR* L. *Comp. Biochem. Physiol. A Comp. Physiol.* 92(2):241-245, 1989. FR 34(2)
[Freshwater Fish. Lab., Pitlochry, Perthshire PH16 5LB, Scotland]

9-001831 Tamaru, C. S.; C.-S. Lee; C. D. Kelley; J. E. Hango; P. Y. Ha; K. Aida; H. Hanyu. CHARACTERIZING THE STAGE OF MATURITY MOST RECEPTIVE TO AN ANDROGEN-ANALOGUE THERAPY FOR INDUCING MILKFISH (*CHANOS CHANOS*) TO SPAWN. *Aquaculture* 74(1/2):147-163, 1988. FR 34(2)
[Oceanic Inst., Makapuu Point, Waimanalo, HI 96795]

9-001832 Tang, Y.; D. G. McDonald and R. G. Boutilier. ACID-BASE REGULATION FOLLOWING EXHAUSTIVE EXERCISE: A COMPARISON BETWEEN FRESHWATER- AND SEA-WATER-ADAPTED RAINBOW TROUT (*SALMO GAIRDNERI*). *J. Exp. Biol.* 141:497-508, 1989. FR 34(2)
[Dep. Biol., Aquatron Lab., Dalhousie Univ., Halifax, NS, Canada B3H 4J1]

9-001833 Tatner, M. F. THE CRYOPRESERVATION OF FISH THYMOCYTES AND ITS POTENTIAL APPLICATION FOR IMMUNOLOGICAL RECONSTITUTION EXPERIMENTS. *J. Fish Biol.* 33(6):925-929, 1988. FR 34(2)
[Aquat. Vaccine Unit, Inst. Aquacult., Univ. Stirling, Stirling FK9 4LA, Scotland]

9-001834 Thomas, P. CHANGES IN THE PLASMA LEVELS OF MATURATION-INDUCING STEROIDS IN SEVERAL PERCIFORM FISHES DURING INDUCED OVULATION. *Ann. N.Y. Acad. Sci.* 53A, 1988. Abstract only. FR 34(2)
[Univ. Tex. Mar. Sci. Inst., Port Aransas]

9-001835 Tosteson, T. R.; D. L. Ballantine and H. D. Durst. SEASONAL FREQUENCY OF CIGUATOXIC BARRACUDA IN SOUTHWEST PUERTO RICO. *Toxicon* 26(9):795-801, 1988. FR 34(2)
[Dep. Mar. Sci., Univ. Puerto Rico, Mayaguez] *Sphyræna barracuda*.

9-001836 Trevarrow, William Wood. EARLY ORGANIZATION OF NEURONS IN THE ZEBRAFISH CNS. *Ph.D. dissertation, Univ. Oreg.* 129p. 1989. From Diss. Abstr. Int. B Sci. Eng. 49(9):3611, 1989. Order No. DA8825750. FR 34(2)
Pterois caenescens.

9-001837 Tyler, Charles Rupert. SEQUESTRATION OF VITELLOGENIN BY THE DEVELOPING OVARY OF THE RAINBOW TROUT, *SALMO GAIRDNERI*. *Ph.D. dissertation, Aston Univ. (United Kingdom)* 267p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(9):3611, 1989. Order No. BRDX83376. FR 34(2)

9-001838 Vallant, Colette; Gilles Monod; Yves Valotaire and Jean-Louis Riffaut.

GARIEPINUS. *Aquaculture* 75(1/2):181-191. 1988. FR 34(2)

[Dep. Fish Cult. & Fish., Wageningen Agric. Univ., P.O. Box 338, 6700 AH Wageningen, Netherlands]

89-001841 Vernet, Maria; John R. Hunter and Russell D. Vetter. ACCUMULATION OF AGE PIGMENTS (LIPOFUSCIN) IN TWO COLD-WATER FISHES. *U.S. Natl. Mar. Fish. Serv. Fish. Bull.* 86(2):401-407. 1988. FR 34(2)

[Inst. Mar. Resour., Scripps Inst. Oceanogr., Univ. Calif. (San Diego), La Jolla 92093-0202] *Microstomus pacificus* and *Oncorhynchus mykiss*.

89-001842 Wales, N. A. M. HORMONE STUDIES IN *MYXINE GLUTINOSA*: EFFECTS OF THE EICOSANOIDS ARACHIDONIC ACID, PROSTAGLANDIN E_1 , E_2 , A_2 , $F_{2\alpha}$, THROMBOXANE B_2 AND OF INDOMETHACIN ON PLASMA CORTISOL, BLOOD PRESSURE, URINE FLOW AND ELECTROLYTE BALANCE. *J. Comp. Physiol. B Biochem. Syst. Environ. Physiol.* 158(5):621-626. 1988. FR 34(2)

[Dep. Biomed. Sci., Sheffield City Polytech., Pond St., Sheffield S1 1WB, England]

89-001843 Weatherley, A. H.; H. S. Gill and A. F. Lobo. RECRUITMENT AND MAXIMAL DIAMETER OF AXIAL MUSCLE FIBRES IN TELEOSTS AND THEIR RELATIONSHIP TO SOMATIC GROWTH AND ULTIMATE SIZE. *J. Fish Biol.* 33(6):851-859. 1988. FR 34(2)

[Div. Life Sci., Scarborough Campus, Univ. Toronto, West Hill, ON, Canada M1C 1A4] *Rhynchthys cataractae*, *Micropterus dolomieu*, *Lepomis macrochirus*, *L. gibbosus*, *Perca flavescens*, and *Coregonus clupeaformis*.

89-001844 Weisbart, M. and F. M. Gottschall. THE EFFECT OF RU486 ON THE ADAPTATION OF THE BROOK TROUT, *Salvelinus fontinalis* AND THE ATLANTIC SALMON, *Salmo salar* TO SEA WATER. *Am. Zool.* 28(4):183A. 1988. Abstract only FR 34(2)

[St. Francis Xavier Univ., Antigonish, NS, Canada]

89-001845 Wells, R. M. G.; G. C. Grigg; L. A. Beard and G. Summers. HYPOXIC RESPONSES IN A FISH FROM A STABLE ENVIRONMENT: BLOOD OXYGEN TRANSPORT IN THE ANTARCTIC FISH *PAGOTHENIA BORCHGREVINKI*. *J. Exp. Biol.* 141:97-111. 1989. FR 34(2)

[Dep. Zool., Univ. Auckland, Auckland, New Zealand]

89-001846 Wendelaar Bonga, Sjoerd E.; Paul W. J. M. Smits; Gert Flik; Toyoji Kaneko and Peter K. T. Pang. IMMUNOCYTOCHEMICAL LOCALIZATION OF HYPOCALCIN IN THE ENDOCRINE CELLS OF THE CORPUSCLES OF STANNIUS IN THREE TELEOST SPECIES (TROUT, FLOUNDER AND GOLDFISH). *Cell Tissue Res.* 255(3):651-656. 1989. FR 34(2)

[Dep. Anim. Physiol., Fac. Sci., Univ. Nijmegen, Toernooiveld, NL-6525 ED Nijmegen, Netherlands] *Carassius auratus*, *Oncorhynchus mykiss*, and *Hippoglossoides elassodon*.

PHYSIOLOGY (CONTINUED)

- 89-001847 White, Y. A.; J. W. Crim and R. M. Dores. ISOLATION OF BETA-ENDO AND ALPHA-MSH FROM THE PARS INTERMEDIA OF THE GAR, *LEPISOSTEUS PLATYRHINCHUS*. *Am. Zool.* 28(4):119A. 1988. Abstract only. FR 34(2)
[Univ. Denver, Denver, CO]
- 89-001848 Williams, E. M. and F. B. Eddy. REGULATION OF BLOOD HAEMOGLOBIN, ELECTROLYTES IN RAINBOW TROUT *SALMO GAIRDNERI* (RICHARDSON) EXPOSED TO NITRITE. *Aquat. Toxicol. (Amst.)* 13(1):13-28. 1989. FR 34(2)
[Dundee Univ., Dundee DD1 1HN, Scotland]
- 89-001849 Wise, David J.; J. R. Tomasso and T. M. Brandt. ASCORBIC ACID INHIBITION OF NITRITE-INDUCED METHEMOGLOBINEMIA IN CHANNEL CATFISH. *Prog. Fish Cult.* 50(2):77-80. 1989. FR 34(2)
[Aquat. Sta., Southwest Tex. State Univ., San Marcos 78666] *Ictalurus punctatus*.
- 89-001850 Woo, N. Y. S.; E. L. P. Chan and K. L. Yu. VASOACTIVE PROPERTIES OF DIHOMO- γ -LINOLENIC ACID AND SERIES ONE PROSTAGLANDINS IN A FRESHWATER TELEOST, *CHANNA MACULATA*. *Comp. Biochem. Physiol. C Comp. Pharmacol. Toxicol.* 92(1):95-101. 1989. FR 34(2)
[Dep. Biol., Chinese Univ. Hong Kong, Shatin, N.T., Hong Kong]
- 89-001851 Wood, Stephen C., editor. COMPARATIVE PULMONARY PHYSIOLOGY CURRENT CONCEPTS. Marcel Dekker Inc. 854p. 1989. FR 34(2)
[Lovelace Med. Found., Albuquerque, NM] Selected chapters indexed in this issue. *Fisheries Review*.
- 89-001852 Wourms, J. P. REPRODUCTION IN A DEEPWATER CATSHARK: USE OF COMMUNAL SPAWNING SITES. *Am. Zool.* 28(4):80A. 1988. Abstract only. FR 34(2)
[Clemson Univ., Clemson, SC 29634-0919]
- 89-001853 Wright, Patricia; Tom Heming and David Randall. DOWNSTREAM pH CHANGE AFFECTS WATER FLOWING OVER THE GILLS OF RAINBOW TROUT. *J. Exp. Biol.* 126:499-512. 1989. FR 34(2)
[Alberta Environ. Cent., Bag 4030, Vegreville, AB, Canada T0B 4L0]
- 89-001854 Yamada, H.; R. Horiuchi and K. Yamauchi. CHARACTERIZATION OF THYROID HORMONE UPTAKE AND T_4 TURNOVER IN THE ISOLATED MASU SALMON, *ONCORHYNCHUS MASOU*, LIVER CELLS. *Am. Zool.* 28(4):148A. 1988. Abstract only. FR 34(2)
[Fac. Fish., Hokkaido Univ., Hakodate, Hokkaido, Japan]
- 89-001855 Yamaguchi, Kazuo; Akikazu Yasuda; Urban J. Lewis; Yoshiharu Yokoo; Hiroshi Kawauchi. THE COMPLETE AMINO ACID SEQUENCE OF GROWTH HORMONE OF ELASMOBRANCH, THE BLUE SHARK (*PRIONACE GLAUCA*). *Gen. Comp. Endocrinol.* 73(2):252-259. 1989. FR 34(2)
[Kawauchi: Lab. Mol. Endocrinol., School Fish. Sci., Kitasato Univ., Sanriku, Iwate 985-8501, Japan]

89-001857 Yamamoto, Ken-ichi and Yasuo Itazawa. ERYTHROCYTE SUPPLY FROM THE SPLEEN OF EXERCISED CARP. *Comp. Biochem. Physiol. A Comp. Physiol.* 92(1):139-144. 1989. FR 34(2)

[Dep. Biol. & Aquacult., Shimonoseki Univ. Fish., Yoshimi, Shimonoseki 759-65, Japan]

89-001858 Young, Graham and Richard S. Nishioka. EFFECTS OF HYPOPHYSECTOMY ON INTERRENAL FUNCTION IN COHO SALMON. *Am. Zool.* 28(4):149A. 1988. Abstract only. FR 34(2)

[Univ. Calif., Berkeley 94720] *Oncorhynchus kisutch*.

89-001859 Young, R. C. RESPONSE OF RAINBOW TROUT TO VARIABLE DISSOLVED OXYGEN REGIMES. *Tenn. Valley Authority TVA/ONRED/AWR-87/40* 39p. 1987. From U.S. Government Reports 88(6):105. 1989. Available from NTIS as DE8900015/GAR. FR 34(2)

Oncorhynchus mykiss.

89-001860 Zupanc, G. K. H. and W. Heiligenberg. SEXUAL MATURITY DEPENDENT NEURAL PLASTICITY IN THE PREPACEMAKER NUCLEUS OF ADULT WEAKLY ELECTRIC KNIFE FISH. *Am. Zool.* 28(4):180A. 1988. Abstract only. FR 34(2)

[Univ. Calif., San Diego, La Jolla] *Eigenmannia* spp.

GENETICS. VARIATION STUDIES AND HYBRIDIZATION

89-001861 Altukhov, Yu. P.; E. A. Salmenkova; V. T. Omel'chenko; G. A. Rubtsova and Yu. E. Dubrova. BALANCING SELECTION AS A POSSIBLE FACTOR MAINTAINING UNIFORMITY OF ALLELIC FREQUENCIES OF ENZYME LOCI IN POPULATIONS OF THE PACIFIC OCEAN PINK SALMON *ONCORHYNCHUS GORBUSCHA*. *Sov. Genet. (Engl. Transl. Genetika)* 23(10):1330-1340. 1988. FR 34(2)

[N.I. Vavilov Inst. Gen. Genet., Acad. Sci., Moscow, USSR]

89-001862 Andriyasheva, M. A. and A. B. Lokshina. POPULATION-GENETICS APPROACH TO SELECTION OF *CORECONUS PELED* GMELIN. I. METHOD OF INCREASING HETEROZYGOSITY OF STOCKS FOR PROTEIN LOCI. *Sov. Genet. (Engl. Transl. Genetika)* 23(12):1467-1478. 1988. FR 34(2)

[State Res. Inst. Lake & River Fish., Leningrad, USSR]

89-001863 Aoki, T.; K. Nobuta; Y. Nishikawa and H. Shimma. DNA HOMOLOGY OF α -GLOBIN GENE AMONG FIVE RACES OF CARP, *CYPRINUS CARPIO*. *J. Appl. Ichthyol.* 4(4):174-177. 1988. In English with German and French summ. FR 34(2)

[Dep. Fish., Fac. Agric., Miyazaki Univ., Miyazaki 889-21, Japan]

89-001864 Berrebi, P.; F. Dupont; G. Cattaneo-Berrebi and A. J. Crivelli. AN ISOZYME STUDY OF THE NATURAL CYPRINID HYBRID *ALBURNUS ALBURNUS* X *RUTILUS RUBILIO* IN GREECE. *J. Fish Biol.* 34(2):307-313. 1989.

89-001866 Bezrukov, V. F. NONGENETIC VARIABILITY OF LIVER PROTEASES IN THE GRASS CARP. *Sov. Genet. (Engl. Transl. Genetika)* 23(12):1584-1589, 1988. FR 34(2)
[Dep. Gen. & Mol. Genet., T.G. Shevchenko Kiev State Univ., Kiev, USSR]
Ctenopharyngodon idella.

89-001867 Bickham, John W.; Steven M. Carr; Brian G. Hanks; David W. Burton and Benny J. Gallaway. GENETIC ANALYSIS OF POPULATION VARIATION IN THE ARCTIC CISCO (*COREGONUS AUTUMNALIS*) USING ELECTROPHORETIC, FLOW CYTOMETRIC, AND MITOCHONDRIAL DNA RESTRICTION ANALYSES. *Biol. Pap. Univ. Alaska* No. 24 p. 112-122. 1989. FR 34(2)
[Dep. Wildl. & Fish. Sci., Tex. A&M Univ., College Station 77843]

89-001868 Boltz, Jeffrey Martin. GEOGRAPHIC VARIATION IN MORPHOLOGY OF *APHREDODERUS SAYANUS* (GILLIAMS) (TELEOSTEI: APHREDODERIDAE). *Ph.D. dissertation, Pa. State Univ.* 241p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(7):2473-2474. 1989. Order No. DA8817957. FR 34(2)

89-001869 Bonar, S. A.; G. L. Thomas and C. B. Pauley. EVALUATION OF THE SEPARATION OF TRIPLOID AND DIPLOID GRASS CARP, *CTENOPHARYNGODON IDELLA* (VALENCIENNES), BY EXTERNAL MORPHOLOGY. *J. Fish Biol.* 33(6):895-898. 1988. FR 34(2)
[Coop. Fish. Res. Unit, School Fish. WH-10, Univ. Wash., Seattle 98195]

89-001870 Brannon, E.; A. Setter; M. Miller; S. Brewer and G. Winans. COLUMBIA RIVER WHITE STURGEON (*ACIPENSER TRANSMONTANUS*): POPULATION GENETICS AND EARLY LIFE HISTORY STUDY: FINAL REPORT, JANUARY 1, 1986 TO DECEMBER 31, 1986. *School Fish. (Wash. Univ.) DOE/BP/18952-2*. 63p. 1987. From U.S. Government Report 87(24):175. 1987. Available from NTIS as DE8700992-1/GAR. FR 34(2)

89-001871 Cherfas, N. B.; M. I. Abramenko; O. V. Emel'yanova; I. D. Il'ina and K. A. Truveller. GENETIC FEATURES OF INDUCED GYNOGENESIS IN HYBRIDS OF THE SILVER GOLDFISH AND CARP. *Sov. Genet. (Engl. Transl. Genetika)* 22(1):109-114. 1986. FR 34(2)
[Fish. Sci. Prod. Union, Moscow, USSR] *Carassius auratus gibelio* and *Cyprinus carpio*.

89-001872 Child, A. R. POPULATION GENETICS OF COD (*GADUS MORHUA* (L.)) HADDOCK (*MELANOGRAMMUS AEGLEFINUS* (L.)), WHITING (*MERLANGIUS MERLANGUS* (L.)) AND SAITHÉ (*POLLACHIUS VIRENS* (L.)). *Fish. Res. Tech. Rep. MAFF Dir. Fish. Res.* No. 87. 27p. 1988. FR 34(2)
[Fish Stock Manage. Div., Sect. 4, Dir. Fish. Res., Fish. Lab., Conwy, North Wales]

89-001875 Edwards, Robert J. and Clark Hubbs. TEMPORAL CHANGES IN THE *CAMBUSIA HETEROCHIR* X *C. AFFINIS* HYBRID SWARM FOLLOWING DAM RECONSTRUCTION. *Proc. Desert Fishes Council*. 16:37. 1987. English and Spanish abstract only. FR 34(2)

89-001876 Elliott, J. M. GROWTH AND SIZE VARIATION IN CONTRASTING POPULATIONS OF TROUT *SALMO TRUTTA*: AN EXPERIMENTAL STUDY ON THE ROLE OF NATURAL SELECTION. *J. Anim. Ecol.* 58(1):45-58. 1989. FR 34(2)
[Freshwater Biol. Assoc., Windermere Lab., Ambleside, Cumbria LA22 0LP, England]

89-001877 Ermolenko, L. N.; S. P. Pustovoit; A. N. Makoedov and R. M. Viktorovskii. GENETICS OF LACTATE DEHYDROGENASE ISOENZYMES IN SALMONID FISH. *Sov. Genet. (Engl. Transl. Genetika)* 23(2):238-246. 1987. FR 34(2)
[Inst. Biol. Problems N., Far East Sci. Cent., Acad. Sci., Magadan, USSR]

89-001878 Fahy, Edward; Seamus Martin and Margaret Mulrooney. INTERACTIONS OF ROACH AND BREAM IN AN IRISH RESERVOIR. *Arch. Hydrobiol.* 114(2):291-309. 1988. FR 34(2)
[Fish. Res. Cent., Dep. Mar., Abbotstown, Castleknock, Dublin 15, Ireland] *Rutilus rutilus*, *Abramis brama*, and *Scardinius erythrophthalmus*.

89-001879 Foote, Chris J.; Chris C. Wood and Ruth E. Withler. BIOCHEMICAL GENETIC COMPARISON OF SOCKEYE SALMON AND KOKANEE, THE ANADROMOUS AND NONANADROMOUS FORMS OF *ONCORHYNCHUS NERKA*. *Can. J. Fish. Aquat. Sci.* 46(1):149-158. 1989. In English with French summ. FR 34(2)
[Dep. Fish. & Oceans, Biol. Sci. Branch, Pac. Biol. Stn., Nanaimo, BC, Canada V9R 5K6]

89-001880 Fujino, Kazuo; Tomoyuki Hosaka; Katsutoshi Arai and Munao Kawamura. ESTIMATING RATE OF GENE-CENTROMERE RECOMBINATION AT ELECTROPHORETIC AND THERMOSTABILITY VARIATION LOCI OF ISOZYMES IN THE BROOK TROUT. *Bull. Jpn. Soc. Sci. Fish.* 55(1):1-7. 1989. In English with Japanese summ. FR 34(2)
[Kitasato Univ. School Fish. Sci., Sanriku, Kesen, Iwate 022-01, Japan] *Salvelinus fontinalis* and *S. leucomaenis*.

89-001881 Gagal'chii, N. G. INHERITANCE OF HEPATIC ISOCITRATE DEHYDROGENASE IN THE PINK SALMON *ONCORHYNCHUS GORBUSCHA* (WALB.). *Sov. Genet. (Engl. Transl. Genetika)* 24(2):213-218. 1988. FR 34(2)
[Inst. Cytol., Acad. Sci., Leningrad, USSR]

89-001882 Gagal'chii, N. G. BIOCHEMICAL POLYMORPHISM OF THE KAMCHATKA PINK SALMON *ONCORHYNCHUS GORBUSCHA* (WALB.). PART I. FREQUENCIES OF ALLELES OF POLYMORPHIC LOCI IN ODD-YEAR GENERATION. *Sov. Genet. (Engl. Transl. Genetika)* 21(5):666-672. 1985. FR 34(2)
[Inst. Cytol., Acad. Sci., Leningrad, USSR]

89-001895 Guyomard, R. [GENETIC DIFFERENTIATION BETWEEN POPULATIONS OF ATLANTIC SALMON: REVIEW AND INTERPRETATION OF ELECTROPHORETIC AND QUANTITATIVE DATA] In: *The Restoration of Salmonid Rivers*. M. Thibault and R. Billard, editors. p. 297-308. 1987. In French with English summ. FR 34(2)
[INRA, Lab. Genet. Poissons, 78350 Jouy-en-Josas, France] *Salmo salar*.

89-001886 Hedgecock, Dennis; Keith Nelson and Luis Gerardo Lopez-Lemus. BIOCHEMICAL GENETIC AND MORPHOLOGICAL DIVERGENCE AMONG THREE SPECIES OF THREAD HERRING (*OPISTHONEMA*) IN NORTHWEST MEXICO. *Calif. Coop. Oceanic Fish. Invest. Rep.* 29:110-121. 1988. In English with Spanish summ. FR 34(2)
[Bodega Mar. Lab., Univ. Calif. (Davis), P.O. Box 247, Bodega Bay 94923] *O. bulleri*, *O. medirostre*, and *O. libertate*.

89-001887 Huang, C. M.; S. L. Chang; H. J. Cheng and I. C. Liao. SINGLE GENE INHERITANCE OF RED BODY COLORATION IN TAIWANESE RED TILAPIA. *Aquaculture* 74(3/4):227-232. 1988. FR 34(2)
[Inst. Fish. Sci., Natl. Taiwan Univ., Taipei, Taiwan] *Tilapia nilotica* and *T. mossambica*.

89-001888 Jamieson, Alan and Peter J. Smith. ATLANTIC MACKEREL (*SCOMBER SCOMBRUS* L.) STOCKS AND GENES: A REVIEW. *J. Cons. Cons. Int. Explor. Mer* 44(1):66-72. 1987. FR 34(2)
[Minist. Agric., Fish. & Food, Dir. Fish. Res., Fish. Lab., Lowestoft, Suffolk NR33 0HT, England]

89-001889 Jamieson, Alan; Robert J. Turner; Wendy A. Dawson and Andrew J. Birley. ATLANTIC MACKEREL (*SCOMBER SCOMBRUS* L.) ADENOSINE DEAMINASE, ESTERASE-D AND OTOLITH L₁. *J. Cons. Cons. Int. Explor. Mer* 44(1):59-65. 1987. FR 34(2)
[Minist. Agric., Fish. & Food, Dir. Fish. Res., Fish. Lab., Lowestoft, Suffolk NR33 0HT, England]

89-001890 Johnson, Orley William. INDUCED TRIPLOIDY IN PACIFIC SALMON. *Ph.D. dissertation, Univ. Wash.* 164p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(9):3576-3577. 1989. Order No. DA8820123. FR 34(2)
Oncorhynchus keta, *O. kisutch*, *O. gorbuscha*, and *O. tshawytscha*.

89-001891 Kalnin, V. V.; O. V. Kalnina and Yu. P. Altukhov. ASSOCIATION OF FITNESS WITH LEVEL OF INDIVIDUAL HETEROZYGOSITY AND SEX IN THE EUROPEAN ANCHOVY (*ENGRAULIS ENGRASICHOLUS*). *Sov. Genet. (Engl. Transl. Genetika)* 24(3):374-380. 1988. FR 34(2)
[N.I. Vavilov Inst. Gen. Genet., Acad. Sci., Moscow, USSR]

DEHYDROGENASE, LACTATE DEHYDROGENASE, AND LACTATE DEHYDROGENASE IN THE CHUCKLEWILLY SALMON, *ONCORHYNCHUS KETA* (WALB.). Sov. Genet. [Engl. Transl. Genetika] 21(5):658-665. 1985. FR 34(2)

[Mar. Biol., Far East. Sci. Cent., Acad. Sci., Vladivostok, USSR]

89-001894 Keegan-Rogers, Valerie and R. Jack Schultz. SEXUAL SELECTION AMONG CLONES OF UNISEXUAL FISH [POECILIOPSIS: POECILIIDAE]: GENETIC FACTORS AND RARE-FEMALE ADVANTAGE. Am. Nat. 132(6):846-868. 1988. FR 34(2)

[Dep. Ecol. & Evol. Biol., U-42, Univ. Conn., 75 N. Eagleville Rd., Storrs 06268]

89-001895 Kerambrun, Pierre. [ADAPTATION TO TEMPERATURE: PHYSIOLOGICAL AND GENETICAL ASPECTS] Oceanis 14(5):565-578. 1988. In French with English sum. FR 34(2)

[Cent. Oceanol., Fac. Sci. Luminy, 13288 Marseille Cedex, France]

89-001896 Kirpichnikov, V. S.; G. A. Muske and A. D. Skholl'-Engberts. POPULATION GENETICS OF KAMCHATKA SALMON OF THE GENUS *ONCHORHYNCHUS*. I. DYNAMICS OF FREQUENCIES OF LOCI FOR LACTATE DEHYDROGENASE AND PHOSPHOGLUCOMUTASE IN SOCKEYE SALMON (*O. NERKA* WALB.) FROM LAKE DAL'NEE. Sov. Genet. [Engl. Transl. Genetika] 23(7):913-922. 1988. FR 34(2)

[Inst. Cytol., Acad. Sci., Leningrad, USSR]

89-001897 Macdonald, S. Ellen; C. C. Chinnappa and David M. Reid. EVOLUTION OF PHENOTYPIC PLASTICITY IN THE *STELLARIA LONGIPES* COMPLEX: COMPARISONS AMONG CYTOTYPES AND HABITATS. Evolution 42(5):1036-1046. 1988. FR 34(2)

[Dep. For. Sci., Univ. Alberta, Edmonton, AB, Canada T6G 2H1] *S. longifolia*.

89-001898 May, Bernie; Kathrine J. Henley; Charles C. Krueger and Steven P. Gloss. ANDROGENESIS AS A MECHANISM FOR CHROMOSOME SET MANIPULATION IN BROOK TROUT [*SALVELINUS FONTINALIS*]. Aquaculture 75(1/2):57-70. 1988. FR 34(2)

[Sect. Ecol. & Syst., Corson Hall, Cornell Univ., Ithaca, NY 14853]

89-001899 Mayden, Richard L. VICARIANCE BIOGEOGRAPHY, PARSIMONY, AND EVOLUTION IN NORTH AMERICA FRESHWATER FISHES. Syst. Zool. 37(4):329-355. 1988. FR 34(2)

[Dep. Biol., Univ. Ala., Tuscaloosa 35487-0341]

89-001900 McAndrew, B. J. and K. C. Majumdar. GROWTH STUDIES ON JUVENILE TILAPIA USING PURE SPECIES, HORMONE-TREATED AND NINE INTERSPECIFIC HYBRIDS. Aquacult. Fish. Manage. 20(1):35-47. 1989. FR 34(2)

[Inst. Aquacult., Univ. Stirling, Stirling FK9 4LA, Scotland] *Tilapia mossambica*, *T. gilliae*, *T. nilotica*, *T. aurea*, *T. spilurus*, and *T. macrochir*.

OF CICHLID FISHES FROM MITOCHONDRIAL GENE SEQUENCES. *Am. Zool.* 28(4):35A, 1988
Abstract only. FR 34(2)
[Univ. Calif., Berkeley 94720]

89-001903 Miller, David L. and Robert J. Behnke. TWO NEW INTERGENERIC CYPRINID
HYBRIDS FROM THE BONNEVILLE BASIN, UTAH. *Proc. Desert Fishes Council*. 16:13. 1987
Abstract only. FR 34(2)
[Dep. Fish. & Wildl. Biol., Colo. State Univ., Fort Collins 80523] *Notemigonus*
phlegenthonis, *Gila atraria*, and *Rhinichthys osculus*.

89-001904 Osinov, A. G. [BROWN TROUT *SALMO TRUTTA* (SALMONIDAE) OF BLACK AND
CASPIAN SEA BASINS: POPULATION-GENETIC ANALYSIS.] *Genetika* 24(12):2172-2186
1988. In Russian with English summ. FR 34(2)
[M.V. Lomonosov State Univ., Dep. Ichtiol., Moscow, USSR]

89-001905 Pak, I. V. and R. M. Tsoi. INTRABREED DIFFERENTIATION OF KAZAKHSTAN
CARP *CYPRINUS CARPIO* AND ITS SELECTIVE VALUE. *Sov. Genet. (Engl. Transl.*
Genetika) 22(1):114-120. 1986. FR 34(2)
[Kazakh Sci. Res. Inst. Fish., Alma-Ata, USSR]

89-001906 Paragamian, Vaughn L. SOME GENETIC CHARACTERISTICS OF THREE
WALLEYE STOCKS IN IOWA AND THE IMPACT OF FRY STOCKINGS IN THE CEDAR RIVER
J. Iowa Acad. Sci. 95(3):82-84. 1988. FR 34(2)
[Dep. Nat. Resour., N.E. Dist. Headquarters, R.R. #2, Box 269, Manchester, IA 52057]
Stizostedion vitreum vitreum.

89-001907 Payusova, A. N. and T. N. Tselikova. POLYMORPHIC SYSTEMS OF MUSCLE
NONSPECIFIC ESTERASE AND LIVER LACTATE DEHYDROGENASE IN THE SILVER CARP
(*HYPOPHthalmichthys molitrix* VAL.) AND THEIR GENETIC CONTROL. *Sov. Genet.*
(Engl. Transl. Genetika) 21(6):804-811. 1985. FR 34(2)
[Dep. Darwinism, M.V. Lomonosov Moscow State Univ., Moscow, USSR]

89-001908 Reisenbichler, R. R. and S. R. Phelps. GENETIC VARIATION IN STEELHEAD
(*SALMO GAIRDNERI*) FROM THE NORTH COAST OF WASHINGTON. *Can. J. Fish. Aquat.*
Sci. 46(1):66-73. 1989. In English with French summ. FR 34(2)
[U.S. Fish & Wildl. Serv., Natl. Fish. Res. Cent., Bldg. 204, Naval Stn. Puget Sound
Seattle, WA 98115]

89-001909 Semenova, S. K. and V. I. Slyn'ko. POLYMORPHISM OF PROTEINS IN
POPULATIONS OF ATLANTIC SALMON (*SALMO SALAR* L.), BROWN TROUT (*S. TRUTTA*
L.), AND THEIR HYBRIDS. *Sov. Genet. (Engl. Transl. Genetika)* 24(3):380-386. 1988. FR
34(2)
[N.I. Vavilov Inst. Gen. Genet., Acad. Sci., Moscow, USSR]

89-001910 Shubin, P. N.; T. I. Chelpanova; A. B. Zakharov and V. I. Ponomarev.
GENETIC CONTROL OF ESTERASES IN THE SIBERIAN GRAYLING *THYMALLUS ARCTICUS*
Sov. Genet. (Engl. Transl. Genetika)

NAISEN, NORWAY. *Can. J. Fish. Aquat. Sci.* 44:103-107, 1987.
summ. FR 34(2)
[Dep. Biol., Univ. Joensuu, SF-80100 Joensuu, Finland]

89-001920 Yu X., Zhou T.; Li K.; Li Y. and Zhou M. ON THE KARYOSYSTEMATICS OF CYPRINID FISHES AND A SUMMARY OF FISH CHROMOSOME STUDIES IN CHINA. *Genetica (The Hague)* 72(3):225-236. 1987. FR 34(2)
[Dep. Biol., Wuhan Univ., Wuhan, Hubei, China]

89-001921 Zhivotovskii, L. A.; K. I. Afanas'ev and G. A. Rubtsova. SELECTIVE PROCESSES ACCORDING TO ENZYME LOCI IN THE PINK SALMON *ONCORHYNCHUS GORBUSCHA*. *Sov. Genet. (Engl. Transl. Genetika)* 23(10):1324-1330. 1988. FR 34(2)
[N.I. Vavilov Inst. Gen. Genet., Acad. Sci., Moscow, USSR]

BEHAVIOR

89-001922 Abrams, Peter. INDIRECT INTERACTIONS BETWEEN SPECIES THAT SHARE A PREDATOR: VARIETIES OF INDIRECT EFFECTS. In: *Predation: Direct and Indirect Impacts on Aquatic Communities*. W. Charles Kerfoot and Andrew Sih, editors. p. 38-54. 1987. FR 34(2)
[Dep. Ecol. & Behav. Biol., Univ. Minn., 318 Church St. S.E., Minneapolis 55455]

89-001923 Adams, S. M. and D. L. DeAngelis. INDIRECT EFFECTS OF EARLY BASS-SHAPE INTERACTIONS ON PREDATOR POPULATION STRUCTURE AND FOOD WEB DYNAMICS. In: *Predation: Direct and Indirect Impacts on Aquatic Communities*. W. Charles Kerfoot and Andrew Sih, editors. p. 103-117. 1987. FR 34(2)
[Environ. Sci. Div., Oak Ridge Natl. Lab., Oak Ridge, TN 37831] *Micropterus salmoides*, *Dorosoma petenense*, and *D. cepedianum*.

89-001924 Baird, T. A. and N. R. Liley. SOCIAL ORGANIZATION OF THE SAND TILFISH, *MALACANTHUS PLUMIERI*: RESOURCE OR FEMALE DEFENSE? *Am. Zool.* 28(4):152A. 1988. Abstract only. FR 34(2)
[Univ. British Columbia, Vancouver, BC, Canada]

89-001925 Barlow, George W. THE STUDY OF FISH BEHAVIOR IN DESERT WATERS. *Proc. Desert Fishes Council*. 16:1-8. 1987. FR 34(2)
[Dep. Zool. & Mus. Vertebr. Zool., Univ. Calif., Berkeley 94720]

89-001926 Basolo, A. L. FEMALE PREFERENCE FOR BODY SIZE, SWORD LENGTH AND SWORD COLOR IN THE SWORDTAIL, *XIPHOPHORUS HELLERI*. *Am. Zool.* 28(4):152A. 1988. Abstract only. FR 34(2)
[Univ. Tex., Austin]

89-001927 Becker, D. Scott. RELATIONSHIP BETWEEN SEDIMENT CHARACTER AND SE SEGREGATION IN ENGLISH SOLE, *PAROPHRYUS VETULUS*. *U.S. Natl. Mar. Fish Serv. Fish. Bull.* 86(3):517-524. 1988. FR 34(1)
[PTI Environ. Serv., 3625 132nd Ave. S.E., Bellevue, WA 98006]

89-001928 Bestgen, Kevin R. and David L. Propst. RED SHINER VS. NATIVE FISHES: REPLACEMENT OR DISPLACEMENT? *Proc. Desert Fishes Council*. 18:209. 1987. Abstract only.

89-001928 CONTINUED

[Dep. Biol., Univ. N.M., Albuquerque 87131] *Notropis lutrensis*, *Medo* f.,
Tiaroga cobitis in New Mexico.

89-001929 Beulig, A. and K. Mathews. INDIVIDUAL VARIATION IN AGGRESSIVE
LEARNING PERFORMANCE IN *CYPRINODON VARIEGATUS*. *Am. Zool.* 28(4):111-116.
Abstract only. FR 34(2)
[New Coll., Univ. South. Fla., Sarasota]

89-001930 Breeser, Steven W.; F. David Stearns; Michael W. Smith; Robin L. L.
James B. Reynolds. OBSERVATIONS OF MOVEMENTS AND HABITAT PREFERENCE OF
BURBOT IN AN ALASKAN GLACIAL RIVER SYSTEM. *Trans. Am. Fish. Soc.* 117:11-16.
1988. FR 34(2)
[U.S. Fish & Wildl. Serv., Tetlin Natl. Wildl. Refuge, P.O. Box 155, Tok, AK 99075]
Iota.

89-001931 Brodeur, R. D. COMPARATIVE FEEDING ECOLOGY OF JUVENILE
CHINOOK IN THE OCEAN: THE IMPORTANCE OF THE NEUSTON. *Am. Zool.* 28(4):111-116.
1988. Abstract only. FR 34(2)
[Univ. Wash., Seattle 98195] *Oncorhynchus ktsutch* and *O. tshawytscha* in the
Washington.

89-001932 Chess, James R.; Susan E. Smith and Paul C. Fishcher.
RELATIONSHIPS OF THE SHORTBELLY ROCKFISH, *SEBASTES JORDANI*, OFF THE
CALIFORNIA. *Calif. Coop. Oceanic Fish. Invest. Rep.* 29:129-136. 1988. In Eng.
Spanish summ. FR 34(2)
[Tiburon Lab., Southwest Fish. Cent., 3150 Paradise Dr., Tiburon, CA 94920]

89-001933 Cliff, G. SHARKS: ARE THEY A THREAT? *Naturalist (South Africa)* 2.
19. 1988. FR 34(2)
[Natal Sharks Board, Private Bag 2, Umhlanga Rocks 4320, South Africa] *Carcharias*,
Galeocerdo cuvier, *Carcharhinus leucas*, and *Eugomphodus taurus*.

89-001934 Clifton, Kenneth Edward. TERRITORY SHARING BY STRIPED PARROT
SCARUS ISERTI: AN ANALYSIS OF THE COSTS AND BENEFITS OF GROUP LIVING.
dissertation, Univ. Calif. (Santa Barbara) 157p. 1988. From Diss. Abstr. Int. B 2.
49(7):2457-2458. 1989. Order No. DA8817657. FR 34(2)

89-001935 Collins, Nicholas C. DAYTIME EXPOSURE TO FISH PREDATION FOR LIT
BENTHIC ORGANISMS IN UNPRODUCTIVE LAKES. *Can. J. Fish. Aquat. Sci.* 45(12):2155-2160.
1989. In English with French summ. FR 34(2)
[Dep. Zool., Erindale Campus, Univ. Toronto, Mississauga, ON, Canada L5L 1C6]
for 10 species.

89-001936 Cunjak, Richard A. BEHAVIOUR AND MICROHABITAT OF YOUNG ATLANTIC
SALMON (*SALMO SALAR*) DURING WINTER. *Can. J. Fish. Aquat. Sci.* 45(12):2155-2160.
1989. In English with French summ. FR 34(2)
[Dep. Fish. & Oceans, Sci. Branch, P.O. Box 5030, Moncton, NB, Canada E1C 9B6]

INSPECTION VISITS? *Behav. Ecol. Sociobiol.* 23(6):395-399. 1988. FR 34(2)
[Dep. Biol., SUNY, Binghamton, NY 13901] *Poecilia reticulata*.

89-001939 Dutil, J.-D.; A. Giroux; A. Kemp; G. Lavoie and J.-P. Dallaire. TIDA INFLUENCE ON MOVEMENTS AND ON DAILY CYCLE OF ACTIVITY OF AMERICAN EELS *Trans. Am. Fish. Soc.* 117(5):488-494. 1988. FR 34(2)
[Minist. Peches & Oceans, 850 Route de la Mer, Casier Postal 1000, Mont-Joli, PQ, Canada G5H 3Z4] *Anguilla rostrata* in Canada.

89-001940 Dwyer, M. and A. Beulig. TESTOSTERONE AND AGGRESSION IN *CYPRINODON VARIEGATUS*. *Am. Zool.* 28(4):181A. 1988. Abstract only. FR 34(2)
[New Coll., Sarasota, FL]

89-001941 Enderlein, O. MIGRATORY BEHAVIOUR OF ADULT OF CISCO, *COREGONUS ALBULA* L., IN THE BOTHNIAN BAY. *J. Fish Biol.* 34(1):11-18. 1989. FR 34(2)
[Inst. Freshwater Res., S-170 11 Drottningholm, Sweden]

89-001942 Fish Passage Center. MIGRATIONAL CHARACTERISTICS OF COLUMBIA BASIN SALMON AND STEELHEAD TROUT, 1986: VOLUME 2. BRAND RECAPTURE DATA: SMOLT MONITORING PROGRAM ANNUAL REPORT, 1986. *Fish Passage Cent.* DOE/BP/61747-2. 243p. 1987. From U.S. Government Reports 87(24):175. 1987. Available from NTIS as DE87005909/GAR. FR 34(2)
Oncorhynchus nerka, *O. tshawytscha*, and *O. mykiss*.

89-001943 Fitzgerald, G. J.; H. Guderley and M. Blouin. THE EFFECT OF TEMPERATURE UPON THE AGGRESSIVE BEHAVIOR OF MALE STICKLEBACKS (GASTEROSTEIDAE). *Nat. Can. (Que.)* 113(3):235-240. 1986. In English with French summ. FR 34(2)
[Dep. Biol., Univ. Laval, Laval, PQ, Canada G1K 7P4] *Gasterosteus aculeatus*, *G. wheatlandi*, and *Pungitius pungitius*.

89-001944 Fitzsimmons, Kevin Michael. EFFECTS OF CONTINUOUS ILLUMINATION ON FEEDING RATE AND GROWTH OF THE SHEEPSHEAD MINNOW, *CYPRINODON VARIEGATUS* LACEPEDE. *M.S. thesis, Univ. W. Fla.* 1988. From Masters Abstr. Int. 27(1):66-67. 1989. FR 34(2)

89-001945 Freeman, Mary C. and Deanna J. Stouder. INTRASPECIFIC INTERACTION INFLUENCE SIZE SPECIFIC DEPTH DISTRIBUTION IN *COTTUS BAIRDI*. *Environ. Biol. Fishes* 24(3):231-236. 1989. FR 34(2)
[Stouder: Inst. Ecol. & School For. Resour., Univ. Ga., Athens 30602]

89-001946 French, John R. P. III. EFFECT OF SUBMERSED AQUATIC MACROPHYTES ON RESOURCE PARTITIONING IN YEARLING ROCK BASS (*AMBLOPLITES RUPESTRIS*) AND PUMPKINSEEDS (*LEPOMIS GIBBOSUS*) IN LAKE ST. CLAIR. *J. Great Lakes Res.* 14(3):291-300. 1988. FR 34(2)
[Natl. Fish. Res. Cent.-Great Lakes, U. S. Fish & Wildl. Serv., Ann Arbor, MI 48105]

89-001948 Gaudin, P. [COTTIDAE AS PREDATORS OF SALMON FRY.] In: *The Restoration of Salmonid Rivers*. M. Thibault and R. Billard, editors. p. 291-296. 1987. In French with English summ. FR 34(2)

[Univ. Claude Bernard Lyon 1, 43 Bd 11 Novembre 1918, 69622 Villeurbanne Cedex, France] *Salmo trutta* and *Cottus gobio*.

89-001949 Gerber, Glenn P. and James M. Haynes. MOVEMENTS AND BEHAVIOR OF SMALLMOUTH BASS, *MICROPTERUS DOLOMIEUI*, AND ROCK BASS, *AMBLELOPITES RUPESTRIS*, IN SOUTH-CENTRAL LAKE ONTARIO AND TWO TRIBUTARIES. *J. Freshwater Ecol.* 4(4):425-440. 1989. FR 34(2)

[Haynes: Aquat. Ecol. Sect., Dep. Biol. Sci., SUNY Coll., Brockport, NY 14420]

89-001950 Godin, J.-G. J. ANTIPREDATOR FUNCTION OF SHOALING IN TELEOST FISHES: A SELECTIVE REVIEW. *Nat. Can. (Que.)* 113(3):241-250. 1986. In English with French summ. FR 34(2)

[Dep. Biol., Mt. Allison Univ., Sackville, NB, Canada E0A 3C0]

89-001951 Gray, R. H. FISH BEHAVIOR, MIGRATION AND ENVIRONMENTAL ASSESSMENT. *Bottellef. Pac. Northwest Labs.* PNL-SA-15699. 34p. 1988. From U.S. Government Reports 88(21):99. 1988. Available from NTIS as DE88008185/GAR. FR 34(2)

Oncorhynchus mykiss, *O. tshawytscha*, *Ictalurus melas*, *Cyprinus carpio*, and *Pimephales promelas*.

89-001952 Griffith, J. S. REVIEW OF COMPETITION BETWEEN CUTTHROAT TROUT AND OTHER SALMONIDS. *Am. Fish. Soc. Symp.* 4:134-140. 1988. FR 34(2)

[Dep. Biol. Sci., Idaho State Univ., Pocatello 83209] *Oncorhynchus clarki lewisi* and *O. c. bouvieri*.

89-001953 Grimes, Churchill B.; Kenneth W. Able and Robert S. Jones. HABITAT AND ASSOCIATED SPECIES OF TILEFISH, *LOPHOLATILUS CHAMAELEONTICEPS* (BRANCHIOSTEGIDAE) ALONG THE U.S. ATLANTIC COAST. *Trans. Northeast Fish Wildl. Conf.* 41. p. 246. 1984. Abstract only. FR 34(2)

[Rutgers Univ., New Brunswick, NJ 08903]

89-001954 Grober, Matthew Scott. THE PHYSIOLOGICAL, BEHAVIORAL, AND ECOLOGICAL RESPONSES OF NOCTURNAL MARINE FAUNA TO BENTHIC INVERTEBRATE BIOLUMINESCENCE. *Ph.D. dissertation, Univ. Calif. (Los Angeles)* 234p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(8):2961. 1989. Order No. DA8822295. FR 34(2)

89-001955 Gruber, D. MONITORING FISH VENTILATORY BEHAVIOR TO ASSESS BEHAVIORALLY AND NEURALLY MEDIATED EFFECTS OF CHEMICAL SUBSTANCES. *Biol. Monit. Inc. (Blacksburg, Va.) NSF/BNS-84001.* 72p. 1984. From U.S. Government Reports 87(17):17. 1987. Available from NTIS as PB87-194007/GAR. FR 34(2)

89-001956 Holmes, Janet Martha Lee. ASPECTS OF THE ECOLOGY AND BEHAVIOUR OF *CHAETODON CAPISTRATUS* AND ASSOCIATED REEF FISHES. *Ph.D. dissertation, Univ. York (United Kingdom)* 376p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(8):2961-2962. Order No. BRDX82658. FR 34(2)

SEASON AND LIFE HISTORY STRATEGY. *J. Fish Biol.* 33(6):917-924. 1988. FR 34(2)
[Dep. Zool., Univ. Glasgow, Glasgow G12 8QQ, Scotland]

89-001959 Hyatt, Kim D. and Neil H. Ringler. ROLE OF NEST RAIDING AND EGG PREDATION IN REGULATING POPULATION DENSITY OF THREESPINE STICKLEBACKS (*GASTEROSTEUS ACULEATUS*) IN A COASTAL BRITISH COLUMBIA LAKE. *Can. J. Aquat. Sci.* 46(3):372-383. 1989. In English with French summ. FR 34(2)
[Dep. Fish. & Oceans, Fish. Res. Branch, Pac. Biol. Stn., Nanaimo, BC, Canada V9R 5K6]

89-001960 Ibrahim, A. A. and F. A. Huntingford. LABORATORY AND FIELD STUDIES ON DIET CHOICE IN THREE-SPINED STICKLEBACKS, *GASTEROSTEUS ACULEATUS* L., IN RELATION TO PROFITABILITY AND VISUAL FEATURES OF PREY. *J. Fish Biol.* 34(2):245-257. 1989. FR 34(2)
[Huntingford: Zool. Dep., Glasgow Univ., Glasgow G12 8QQ, Scotland]

89-001961 Jahn, A. E.; D. M. Gadoniski and M. L. Sowby. ON THE ROLE OF FOOD-SEEKING IN THE SUPRABENTHIC HABIT OF LARVAL WHITE CROAKER, *GENYONEMUS LINEATUS* (PISCES: SCIAENIDAE). *U.S. Natl. Mar. Fish. Serv. Fish. Bull.* 86(2):251-262. 1988. FR 34(2)
[Sowby: Nat. Hist. Mus. Los Angeles County, 900 Exposition Blvd., Los Angeles, CA 90007]

89-001962 James, A. G. and K. P. Findlay. EFFECT OF PARTICLE SIZE AND CONCENTRATION ON FEEDING BEHAVIOUR, SELECTIVITY AND RATES OF FOOD INGESTION BY THE CAPE ANCHOVY *ENGRAULIS CAPENSIS*. *Mar. Ecol. Prog. Ser.* 50(3):275-294. 1989. FR 34(2)
[Sea Fish. Res. Inst., Private Bag X2, Rogge Bay, Cape Town, South Africa]

89-001963 Kawocki, Tadeusz J. UNISEXUAL/BISEXUAL BREEDING COMPLEXES IN POECILIIDAE: WHY DO MALES COPULATE WITH UNISEXUAL FEMALES? *Evolution* 42(5):1018-1023. 1988. FR 34(2)
[Inst. Environ. Biol., Dep. Hydrobiol., Jagiellonian Univ., Oleandry 2a, 30-063 Krakow Poland] *Poeciliopsis* spp. and *Poecilia* spp.

89-001964 Kerfoot, W. Charles and Andrew Sih, editors. PREDATION: DIRECT AND INDIRECT IMPACTS ON AQUATIC COMMUNITIES. *Univ. Press New England* 386p. 1987. FR 34(2)
[Great Lakes Res. Div., Inst. Sci. & Technol. & Dep. Biol., Univ. Mich., Ann Arbor 48109]

89-001965 Kerfoot, W. Charles and Michael Lynch. BRANCHIOPOD COMMUNITIES ASSOCIATIONS WITH PLANKTIVOROUS FISH IN SPACE AND TIME. In: *Predation: Direct and Indirect Impacts on Aquatic Communities*, W. Charles Kerfoot and Andrew Sih, editors. p. 367-378. 1987. FR 34(2)
[Great Lakes Res. Div., Inst. Sci. & Technol. & Dep. Biol., Univ. Mich., Ann Arbor 48109]

[Cent. Limnol., Dep. Physiol. Ecol., Postfach 165, 7320 Plön, West Germany]

89-001967 Kodric-Brown, Astrid. AN EXPERIMENTAL ANALYSIS OF VARIATION IN THE BREEDING SYSTEM OF PUPFISH (CYPRINODON). *Proc. Desert Fishes Conf.* English and Spanish abstract only. FR 34(2)

[Dep. Ecol. & Evol. Biol., Univ. Ariz., Tucson 85721] *C. pecosensis*.

89-001968 Konings, Ad. THE BREEDING BEHAVIOUR OF *OPHTHALMOTILAPNEustes*. *Trop. Fish Hobbyist* 37(6):10, 13-18, 1989. FR 34(2)

89-001969 Korver, R. M. and J. B. Sprague. ZINC AVOIDANCE BY FATHEAD MINNOW (*PIREPHEPHALES PROMELAS*): COMPUTERIZED TRACKING AND GREATER RELEVANCE. *Can. J. Fish. Aquat. Sci.* 46(3):494-503, 1989. In English with French summary. FR 34(2)

[Dep. Zool., Univ. Guelph, Guelph, ON, Canada N1G 2W1]

89-001970 Kuwamura, Tetsuo; Makoto Nagoshi and Tetsu Sato. FEMALE-INITIATED MOUTH-BROODING IN A CICHLID FISH, *TANGANICODUS IRISACAE*. *Env. Biol. Fishes* 24(3):187-198, 1989. FR 34(2)

[Lab. Biol., Fac. Liberal Arts, Chukyo Univ., Nagoya 465, Japan] *cyanostictus* and *Spathodus marlieri*.

89-001971 Lagardere, J. P., J. J. Ducamp; L. Frikha and M. Sperandio. TRACKING OF COMMON SOLE JUVENILES (*SOLEA VULGARIS* QUENSEN) IN A SALT MARSH: METHODS AND FISH RESPONSE TO SOME ENVIRONMENTAL VARIABLES. *Appl. Ichthyol.* 4(2):87-96, 1988. In English with French and German summaries.

[CNRS-IFREMER, Cent. Recherche Ecol. Mar. & Aquacult. Houmeau, Cap de la Mer, France]

89-001972 Last, J. M. THE FOOD OF IMMATURE SPRAT (*SPRATTUS SPRATTUS*) AND HERRING (*CLUPEA HARENGUS* L.) IN COASTAL WATERS OF THE NORTH SEA. *Cons. Cons. Int. Explor. Mer* 44(1):73-79, 1987. FR 34(2)

[Minist. Agric., Fish. & Food, Dir. Fish. Res., Fish. Lab., Lowestoft, Suffolk, England]

89-001973 Levin, Luis E.; Ricardo Salazar; Pedro Belmonte and Aldemaro Escalante. ORIENTED SWIMMING OF SCHOOLING FISH IN CONTINUOUS CHANNELS. *Fishes* 24(3):145-150, 1989. FR 34(2)

[Escuela Biol., Univ. Cent. Venezuela, Apdo. 47106, Los Chaguaramos, Venezuela] *Cheirodon pulcher*.

89-001974 Marconato, A. and A. Bisazza. MATE CHOICE, EGG CARE AND REPRODUCTIVE SUCCESS IN THE RIVER BULLHEAD, *COTTUS GOBIO*. *Fishes* 24(3):905-916, 1989. FR 34(2)

[Dip. Biol., Univ. Padova, via Loredon 10, 35100 Padova, Italy]

89-001975 Marty, C. and E. Beall. [DIEL AND SEASONAL RHYTHMS OF THE MOVEMENTS OF ATLANTIC SALMON FRY AT EMERGENCE.] In: *The Restoration of Rivers*. M. Thibault and R. Billard, editors. p. 283-290, 1987.

89-001977 Mayama, H. [CONSTRUCTION OF EXPERIMENTAL APPARATUS TO OBSERVE THE ASCENDING BEHAVIOR OF ADULT CHUM SALMON.] *Tech. Rep. Hokkaido Salmon Hatchery* No. 157 p. 44-55. 1988. In Japanese. FR 34(2)

Oncorhynchus keta.

89-001978 Mazeroll, A. J. and W. L. Montgomery. DAILY MIGRATIONS OF THE BROS- SURGEONFISH (*ACANTHURUS NIGROFUSCUS*). *Am. Zool.* 28(4):81A. 1988. Abstract on FR 34(2)

[North. Ariz. Univ., Flagstaff 86011]

89-001979 McDowall, Robert M. DIADROMY IN FISHES: MIGRATIONS BETWEEN FRESHWATER AND MARINE ENVIRONMENTS. *Timber Press (Portland, OR)* 308p. 1989. FR 34(2)

89-001980 McKaye, Kenneth R. TROPHIC EGGS AND PARENTAL FORAGING FOR YOUNG BY THE CATFISH *BAGRUS MERIDIONALIS* OF LAKE MALAWI, AFRICA. *Oecologia (Berlin)* 69(3):367-369. 1986. FR 34(2)

[Univ. Md., Cent. Environ. & Estuarine Studies, Appalachian Environ. Lab., Frostburg 21532]

89-001981 Melville-Smith, R. and Elizabeth Louw. AN ASSOCIATION BETWEEN A LIPARID FISH SPECIES AND THE STONE CRAB *LITHODES TROPICALIS* (DECAPODA, ANOMURIDA). *S. Afr. J. Zool.* 22(2):140-142. 1987. In English with Afrikaans summ. FR 34(2)

[Sea Fish. Res. Inst., Univ. Cape Town, Cape Town 8090, South Africa] *Careprocurator griseus* in Namibia.

89-001982 Mesick, Carl F. EFFECTS OF FOOD AND COVER ON NUMBERS OF APACHE AND BROWN TROUT ESTABLISHING RESIDENCY IN ARTIFICIAL STREAM CHANNELS. *Trans. Am. Fish. Soc.* 117(5):421-431. 1988. FR 34(2)

[EA Eng., Sci. & Technol., Inc., 41 A Lafayette Circ., Lafayette, CA 94549] *Salmo trutta* and *Oncorhynchus apache*.

89-001983 Mills, Edward L.; John L. Forney and Kenneth J. Wagner. FISH PREDATION AND ITS CASCADING EFFECT ON THE ONEIDA LAKE FOOD CHAIN. In: *Predation: Direct and Indirect Impacts on Aquatic Communities*. W. Charles Kerfoot and Andrew Sih, editors. p. 118-131. 1987. FR 34(2)

[Dep. Nat. Resour., Cornell Univ., Ithaca, NY 14853]

89-001984 Mittelbach, Gary G. and Peter L. Chesson. PREDATION RISK: INDIRECT EFFECTS ON FISH POPULATIONS. In: *Predation: Direct and Indirect Impacts on Aquatic Communities*. W. Charles Kerfoot and Andrew Sih, editors. p. 315-332. 1987. FR 34(2)

[Dep. Zool. & Ohio, Coop. Fish. Res. Unit, Ohio State Univ., Columbus 43210] *Lepomis macrochirus* and *Perca* spp.

89-001996 Power, Mary E. PREDATOR AVOIDANCE BY GRAZING FISHES IN TEMPERATE AND TROPICAL STREAMS: IMPORTANCE OF STREAM DEPTH AND PREY SIZE. In *Predation: Direct and Indirect Impacts on Aquatic Communities*. W. Charles Kerfoot and Andrew Sih, editors, p. 333-351. 1987. FR 34(2)
[Div. Entomol. & Parasitol., Univ. Calif., Berkeley 94720] *Camptostoma anomalum* in Oklahoma and Panama.

89-001997 Prejs, A. RISK OF PREDATION AND FEEDING RATE IN TROPICAL FRESHWATER FISHES: FIELD EVIDENCE. *Oecologia (Berl.)* 72(2):259-262. 1987. FR 34(2)
[Dep. Hydrobiol., Univ. Warsaw, Nowy Swiat 67, 00-046 Warsaw, Poland]

89-001998 Propst, David L. and Kevin R. Bestgen. MICROHABITAT UTILIZATION PATTERNS OF SPIKEDACE IN NEW MEXICO. *Proc. Desert Fishes Council*. 18:242-243. 1987. FR 34(2)
[Dep. Game & Fish, Santa Fe, NM 87503] *Meda fulgida*.

89-001999 Ridgway, Mark S. THE PARENTAL RESPONSE TO BROOD SIZE MANIPULATION IN SMALLMOUTH BASS (*MICROPTERUS DOLOMIEUI*). *Ethology* 80(1-4):47-54. 1989. FR 34(2)
[Glenora Fish. Stn., R.R. 4, Picton, ON, Canada K0K 2T0]

89-002000 Rieman, B. E.; R. D. Beamesderfer; A. A. Nigro; S. Vigg and H. C. Hande. PRELIMINARY ESTIMATES OF LOSS OF JUVENILE ANADROMOUS SALMONIDS TO PREDATORS IN JOHN DAY RESERVOIR AND DEVELOPMENT OF A PREDATION MODEL. *Oreg. Dep. Fish Wildl. DOE/BP/35097-4*. 59p. 1986. From U.S. Government Report 87(24):18-19. 1987. Available from NTIS as DE87010557/GAR. FR 34(2)
Ptychocheilus oregonensis and *Stizostedion vitreum vitreum*.

89-002001 Ryer, C. H. and B. L. Olla. SOCIAL FACILITATION AND INHIBITION OF FEEDING IN JUVENILE CHUM SALMON *ONCORHYNCHUS KETA*. *Am. Zool.* 28(4):155A. 1988. Abstract only. FR 34(2)
[Hatfield Mar. Sci. Cent., Newport, OR]

89-002002 Scheide, J. T. CIRCADIAN RHYTHM EXPRESSED BY THE SHORT-CIRCUIT CURRENT OF THE KILLIFISH OPERCULUM. *Am. Zool.* 28(4):19A. 1988. Abstract only. FR 34(2)
[Mt. Desert Island Biol. Lab., Salsbury Cove, ME] *Fundulus heteroclitus*.

89-002003 Schmidt, David R.; William B. Griffiths and Larry R. Martin. OVERWINTERING BIOLOGY OF ANADROMOUS FISH IN THE SAGAVANIRKOTOK RIVER DELTA, ALASKA. *Bio. Pop. Univ. Alaska* No. 24, p. 55-74. 1989. FR 34(2)
[LGL Alaska Res. Assoc., Inc., 505 W. Northern Lights Blvd., Suite 201, Anchorage 99503] Data for 13 species.

332(47):463-453. 1988. FR 34(2)
[Behav. & Evol. Ecol. Res. Group, T.H. Morgan School Biol. Sci., Univ. Ky., Lexington 40506]

89-002036 Sikkel, P. C. and C. A. Fuller. SIBLING RECOGNITION BY BLACK SURFPERCH, *EMBIOTOCA JACKSONI*. *Am. Zool.* 28(4):179A. 1989. Abstract only. FR 34(2)
[Oreg. State Univ., Corvallis 97331]

89-002007 Sogard, Susan M.; George V. N. Powell and Jeff G. Holmquist. UTILIZATION BY FISHES OF SHALLOW, SEAGRASS-COVERED BANKS IN FLORIDA BAY: 2. DIET AND TIDAL PATTERNS. *Environ. Biol. Fishes* 24(2):81-92. 1989. FR 34(2)
[Rutgers Mar. Field Stn., P.O. Box 278, Tuckerton, NJ 08087] Data for 22 species.

89-002008 Sogard, Susan M.; George V. N. Powell and Jeff G. Holmquist. UTILIZATION BY FISHES OF SHALLOW, SEAGRASS-COVERED BANKS IN FLORIDA BAY: 1. SPECIES COMPOSITION AND SPATIAL HETEROGENEITY. *Environ. Biol. Fishes* 24(1):53-65. 1989. FR 34(2)
[Rutgers Mar. Field Stn., P.O. Box 278, Tuckerton, NJ 08087]

89-002009 Stauffer, J. R., Jr.; J. M. Boltz and S. E. Boltz. TEMPERATURE PREFERENCE OF THE REDBELLY TILAPIA, *OREOCHROMIS ZILLI* (GERVAIS). *Arch. Hydrobiol.* 114(3):453-456. 1989. FR 34(2)
[Pa. State Univ., School For. Resour., University Park 16802]

89-002010 Stradmeyer, L. and J. E. Thorpe. FEEDING BEHAVIOUR OF WILD ATLANTIC SALMON, *SALMO SALAR* L., PARR IN MID- TO LATE SUMMER IN A SCOTTISH RIVER. *Aquacult. Fish. Manage.* 18(1):33-49. 1987. FR 34(2)
[Thorpe: Freshwater Fish. Lab., Pitlochry, Perthshire PH16 5LB, Scotland]

89-002011 Thorpe, J. E.; R. I. G. Morgan; D. Pretswell and P. J. Higgins. MOVEMENT RHYTHMS IN JUVENILE ATLANTIC SALMON, *SALMO SALAR* L. *J. Fish Biol.* 33(6):931-940. 1988. FR 34(2)
[Dep. Agric. & Fish., Freshwater Fish. Lab., Pitlochry, Perthshire PH16 5LW, Scotland]

89-002012 Threlkeld, Stephen T. EXPERIMENTAL EVALUATION OF TROPHIC-CASCADE AND NUTRIENT-MEDIATED EFFECTS OF PLANKTIVOROUS FISH ON PLANKTON COMMUNITY STRUCTURE. In: *Predation: Direct and Indirect Impacts on Aquatic Communities*. W. Charles Kerfoot and Andrew Sih, editors, p. 161-187. 1987. FR 34(2)
[Biol. Stn. & Dep. Zool., Univ. Okla., Kingston 73439] *Menidia beryllina*, *Dorosoma cepedianum*, and *Tilapia aurea*.

COMPETITION FOR FOOD BETWEEN AND HATCHERY-REARED AYU, *PLECOGLAUS*
ALIVELIS TEMMINCK ET SCHLEGEL, IN CULTURE PONDS. *J. Fish Biol.* 34(3):399-
1999. FR 34(2)

[Ocean Res. Inst., Univ. Tokyo, 1-15-1 Minamidai, Nakano-ku, Tokyo 164, Japan]

89-002015 Van Havre, N. and G. J. FitzGerald. SHOALING AND KIN RECOGNITION
IN THE THREESPINE STICKLEBACK (*CASTEROSTEUS ACULEATUS* L.). *Biol. Bull.*
13(4):190-201. 1989. In English with French summ. FR 34(2)

[Dep. Biol., Univ. Laval, Ste. Foy, PQ, Canada G1K 7P4]

89-002016 Vanni, Michael J. INDIRECT EFFECT OF PREDATORS ON AGE-STRUCTURE
OF PREY POPULATIONS: PLANKTIVOROUS FISH AND ZOOPLANKTON. In: *Predation,
Predation: Direct and Indirect Impacts on Aquatic Communities*. W. Charles Kerfoot
and Andrew Sih, editors. p. 149-160. 1987. FR 34(2)

[Dep. Fish. & Oceans Freshwater Inst., 501 University Crescent, Winnipeg, MB, CA
R3T 2N6]

89-002017 Vierke, Jorg. BUBBLENESTERS THAT DON'T NEED A BUBBLENEST
SITE. *Fish Hobbyist* 37(6):34-35, 38-40, 43-44. 1989. FR 34(2)

89-002018 Wainwright, Peter C. MOTOR CORRELATES OF LEARNING BEHAVIOR
IN FEEDING ON NOVEL PREY BY PUMPKINSEED SUNFISH (*LEPOMIS GIBBOSUS*). *J. Exp. Zool.*
247:237-247. 1986. FR 34(2)

[Dep. Anat., Univ. Chicago, 1025 E. 57th St., Chicago, IL 60637]

89-002019 Wipplhauser, Gail S. and James D. McCleave. PRECISION OF BEHAVIOR
IN MIGRATING JUVENILE AMERICAN EELS (*ANGUILLA ROSTRATA*) UTILIZING SELECTED
TIDAL STREAM TRANSPORT. *J. Cons. Cons. Int. Explor. Mer* 44(1):80-89. 1987. FR 34(2)

[Dep. Zool. & Migratory Fish Res. Inst., Univ. Maine, Orono 04469]

89-002020 Wu, E. H. CONSTRAINTS TO FEEDING PERFORMANCE IN THE HORN SHARK
AND THE WHITESPOTTED BAMBOOSHARK. *Am. Zool.* 28(4):114A. 1988. Abstract only.
FR 34(2)

[Harvard Univ., Cambridge, MA 02138] *Heterodontus francisci* and *Chiloscyphium*
plagiolum.

89-002021 Wulff, J. L. FISH PREDATION ON CRYPTIC SPONGES OF CARIBBEAN CORAL
REEFS. *Am. Zool.* 28(4):166A. 1988. Abstract only. FR 34(2)

[Yale Univ., New Haven, CT 06511] *Sparisoma* spp.

LIFE HISTORY-GENERAL WORKS

89-002022 Almada, Carlos. ON THE STURGEON, *ACIPENSER STURIO*, IN
PORTUGUESE RIVERS AND SEA. *Folia Zool.* 37(2):183-191. 1988. In English with Russian
summ. FR 34(2)

89-002024 Armstrong, Michael, Peter Shelton; Ian Hampton; George Jolly and Yolande Melo. EGG PRODUCTION ESTIMATES OF ANCHOVY BIOMASS IN THE SOUTHERN BENGUELA SYSTEM. *Calif. Coop. Oceanic Fish. Invest. Rep.* 29:137-157. 1988. In English with Spanish summ. FR 34(2)

[Sea Fish. Res. Inst., Private Bag X2, Rogge Bay 8012, South Africa]

89-002025 Boehlert, George W. and Takashi Sasaki. PELAGIC BIOGEOGRAPHY OF THE ARMORHEAD, *PSEUDOPENTACEROS WHEELERI*, AND RECRUITMENT TO ISOLATED SEAMOUNTS IN THE NORTH PACIFIC OCEAN. *U.S. Natl. Mar. Fish. Serv. Fish. Bull.* 86(3):453-465. 1988. FR 34(2)

[Southwest Fish. Cent. Honolulu Lab., NMFS, NOAA, 2570 Dole St., Honolulu, HI 96922-2396]

89-002026 Bonar, Scott A.; Gilbert B. Pauley and G. L. Thomas. SPECIES PROFILES: LIFE HISTORIES AND ENVIRONMENTAL REQUIREMENTS OF COASTAL FISHES AND INVERTEBRATES (PACIFIC NORTHWEST): PINK SALMON. *U.S. Fish Wildl. Serv. Biol. Rep.* 82(11.88):18p. 1989. Available from U.S. Fish & Wildl. Serv., Natl. Wetlands Res. Cent., 1010 Gause Blvd., Slidell, LA 70458. FR 34(2)

[Coop. Fish. Res. Unit, School Fish., Univ. Wash., Seattle 98195] *Oncorhynchus gorbuscha*.

89-002027 Bowmaker, Alan. AN HISTORIC REVIEW OF SHARK RESEARCH AT THE OCEANOGRAPHIC RESEARCH INSTITUTE, DURBAN. *Naturalist (South Africa)* 32(3):30-35. 1988. FR 34(2)

[South African Assoc. Biol. Res., P.O. Box 10712, Marine Parade 4056, South Africa]

89-002028 Brundage, Harold M. III. NOTES ON ATLANTIC AND SHORTNOSE STURGEONS. *Underwater Nat.* 13(2):13-16. 1981. FR 34(2)

[Ichthyol. Assoc., 100 S. Cass St., Middletown, DE 19709] *Acipenser oxyrhynchus* and *A. brevirostrum*.

89-002029 Buckley, Jack. SPECIES PROFILES: LIFE HISTORIES AND ENVIRONMENTAL REQUIREMENTS OF COASTAL FISHES AND INVERTEBRATES (NORTH ATLANTIC): WINTER FLOUNDER. *U.S. Fish Wildl. Serv. Biol. Rep.* 82(11.87):12p. 1989. Available from U.S. Fish & Wildl. Serv., Natl. Wetlands Res. Cent., 1010 Gause Blvd. Slidell, LA 70458. FR 34(2)

[Coop. Fish. Res. Unit, Dep. For. & Wildl. Manage., Univ. Mass., Amherst 01603] *Pseudopleuronectes americanus*.

89-002030 Castro, Jose I. THE BIOLOGY OF THE GOLDEN HAMMERHEAD, *SPHYRNA TUDES*, OFF TRINIDAD. *Environ. Biol. Fishes* 24(1):3-11. 1989. FR 34(2)

[Dep. Biol. Sci., Clemson Univ., Clemson, SC 29631]

89-002032 Craig, Peter C. AN INTRODUCTION TO ANADROMOUS FISHES IN THE ALASKAN ARCTIC. *Biol. Pap. Univ. Alaska* No. 24. p. 27-54. 1989. FR 34(2)
[Dep. Fish & Game, 211 Mission Rd., Kodiak, AK 99615] Data for 18 species.

89-002033 Crawford, R. E. FISHING FOR EEL IN RHODE ISLAND COASTAL PONDS. *Sea Grant Program R.I. Univ.* Gp. 1988. From U.S. Government Reports 88(23):22. 1988
Available from NTIS as PB88-244710/GAR. FR 34(2)
Anguilla sp.

89-002034 Danehy, Robert J. COMPARATIVE ECOLOGY OF YELLOW PERCH AND WHITE PERCH ASSOCIATED WITH NATURAL COBBLE SHOALS AND SAND SUBSTRATES IN MEXICO BAY, LAKE ONTARIO. *Trans. Northeast Fish Wildl. Conf.* 41. p. 254. 1984
Abstract only. FR 34(2)
[S.U.N.Y. ESF, Syracuse, NY 13210] *Morone americana* and *Perca flavescens*.

89-002035 Dauod, H. A.; T. Bolger and J. J. Bracken. AGE, GROWTH AND DIET OF THE BROWN TROUT *SALMO TRUTTA* (L.) IN THE ROUNDWOOD RESERVOIR SYSTEM. *Irish Fish. Invest. Ser. A* No. 28. 24p. 1986. From U.S. Government Reports 88(14):17. 1988
Available from NTIS as PB88-190319/GAR. FR 34(2)

89-002036 Dauod, H. A.; T. Bolger and J. J. Bracken. STUDIES ON THE THREE-SPINED STICKLEBACK *CASTEROSTEUS ACULEATUS* (L.) FROM AN UPLAND IRISH RESERVOIR SYSTEM. *Irish Fish. Invest. Ser. A* No. 27. 17p. 1985. From U.S. Government Reports 88(14):17. 1988. Available from NTIS as PB88-190368/GAR. FR 34(2)

89-002037 Dauod, H. A.; T. Bolger and J. J. Bracken. STUDIES ON THE MINNOW *PHOXINUS PHOXINUS* (L.) FROM AN UPLAND IRISH RESERVOIR SYSTEM. *Irish Fish. Invest. Ser. A (Freshwater)* No. 26. 25p. 1985. From U.S. Government Reports 87(22):198. 1987. Available from NTIS as PB87-221933/GAR. FR 34(2)

89-002038 Dingerkus, Guido. STUDYING SHARKS IN THE BAHAMAS. *Trop. Fish Hobbyist* 37(6):54-56, 58, 62-64, 67. 1989. FR 34(2)

89-002039 Eklund, Jan; Asko Niemi and Esa Ojutkangas. THE RIVER LAMPREY IN TWO REGULATED FINNISH RIVERS. In: *Regulated Rivers. Albert Lillehammer and Svein Jakobsen, Saltveit, editors.* p. 417-426. 1984. FR 34(2)
[Turku Fish. Office, Hameenkatu 28, 20700 Turku, Finland] *Lampetra fluviatilis*.

89-002040 Eltink, A. T. G. W. CHANGES IN AGE - SIZE DISTRIBUTION AND SEX RATIO DURING SPAWNING AND MIGRATION OF WESTERN MACKEREL (*SCOMBER SCOMBRUS* L.) *J. Cons. Cons. Int. Explor. Mer* 44(1):10-22. 1987. FR 34(2)
[Inst. Fish. Invest., P.O. Box 68, 1970 AB IJmuiden, Netherlands]

89-002041 Fahy, E. FEEDING, GROWTH AND PARASITES OF TROUT *SALMO TRUTTA* (L.) FROM MULROY BAY, AN IRISH SEA LOUGH. *Irish Fish. Invest. Ser. A* No. 25. 15p. 1985. From U.S. Government Reports 88(14):17. 1988. Available from NTIS as PB88-190301/GAR. FR 34(2)

from NITIS as DCU000302/GAR. FR 34(2)
Oncorhynchus tshawytscha in Washington.

89-002043 Field, L. Jay. PACIFIC SAND LANCE, *AMMODYTES HEXAPTERUS*, WITH NOTES ON RELATED *AMMODYTES* SPECIES. In: *Species Synopses: Life Histories of Selected Fish and Shellfish of the Northeast Pacific and Bering Sea*. Norman J. Willimovsky, Lewis S. Ince and S. J. Westrheim, editors. p. 15-33. 1988. FR 34(2)
[Ocean Assessment Div., NOAA, 7600 Sand Point Way NE, Seattle, WA 98115]

89-002044 Fricke, H. and R. Plante. HABITAT REQUIREMENTS OF THE LIVING COELACANTH *LATIMERIA CHALUMNAE* AT GRANDE COMORE, INDIAN OCEAN. *Naturwissenschaften* 75(3):149-151. 1988. FR 34(2)
[Max-Planck-Inst. Verhaltensphysiol., D-8131 Seewiesen, West Germany]

89-002045 Fujii, Tetsuo; Hiroyuki Sudo; Masanori Azeta and Masaru Tanaka. [SETTLING PROCESS OF LARVAE AND JUVENILES OF JAPANESE FLOUNDER IN SHIJIKI BAY, HIRADO ISLAND.] *Bull. Jpn. Soc. Sci. Fish.* 55(1):17-23. 1989. In Japanese with English summ. FR 34(2)
[Jpn. Sea Regional Fish. Res. Lab., Niigata 951, Japan] *Paralichthys olivaceus*.

89-002046 Gebhart, Glen E. and O. Eugene Maughan. AN EVALUATION OF GRASS CARP & BIGHEAD CARP HYBRIDS FOR AQUATIC VEGETATION CONTROL. In: *Fish Culture in Fisheries Management*. Richard Stroud, editor. p. 463-467. 1986. FR 34(2)
[Langston Univ., Langston, OK] *Ctenopharyngodon idella* and *Hypophthalmichthys nobilis* in Oklahoma.

89-002047 Goto, Tsuneo; Hiroyuki Sudo; Minoru Tomiyama and Masaru Tanaka. [SETTLING PERIOD OF LARVAE AND JUVENILES OF JAPANESE FLOUNDER *PARALICHTHYS OLIVACEUS* IN SHIJIKI BAY, HIRADO ISLAND.] *Bull. Jpn. Soc. Sci. Fish.* 55(1):9-16. 1989. In Japanese with English summ. FR 34(2)
[Dep. Fish., Fac. Agric., Kyoto Univ., Kyoto 606, Japan]

89-002048 Greenwood, P. H. FIFTY YEARS A 'LIVING FOSSIL' - THE COELACANTH FISH *LATIMERIA CHALUMNAE*. *Biologist* 36(1):15-19. 1989. FR 34(2)

89-002049 Gresswell, Robert E. STATUS AND MANAGEMENT OF INTERIOR STOCKS OF CUTTHROAT TROUT. *Am. Fish. Soc. Symp.* 4:140p. 1988. Available from Am. Fish. Soc., 5410 Grosvenor Ln., Suite 110, Bethesda, MD 20814. FR 34(2)
[U.S. Fish & Wildl. Serv., P.O. Box 184, Yellowstone Natl. Park, WY 82199]
Oncorhynchus clarki. Selected chapters indexed in this issue of *Fisheries Review*.

89-002050 Grosse, Daniel J. and Douglas E. Hay. PACIFIC HERRING, *CLUPEA HARENGUS PALLASI*, IN THE NORTHEAST PACIFIC AND BERING SEA. In: *Species Synopses: Life Histories of Selected Fish and Shellfish of the Northeast Pacific and Bering Sea*. Norman J. Willimovsky, Lewis S. Ince and S. J. Westrheim, editors. p. 34-54. 1988. FR 34(2)
[School Fish., Univ. Wash., Seattle 98195]

(SOUTH ATLANTIC): SPOT. U.S. Fish Wildl. Serv. Mar. Rep. 82(1) 1977
Available from U.S. Fish & Wildl. Serv., Natl. Wetlands Res. Cent., 1010 Galt
Slidell, LA 70458. FR 34(2)

[Coop. Fish & Wildl. Res. Unit, School For. Resour., Univ. Cal., Athens
Leiostomus xanthurus.

89-002052 Hamman, M. Gregory; Tim R. Baumgartner and Antonio Badal.
COUPLING OF THE PACIFIC SARDINE (*SARDINOPS SAGAX CALIFILUS*) WITH THE
THE GULF OF CALIFORNIA PELAGIC ENVIRONMENT. Calif. Coop. Oceanogr. Fish.
Rep. 29:102-109. 1988. In English with Spanish summ. FR 34(2)

[Cent. Invest. Cient. & Educ. Superior Ensenada, B.C., Apdo. Postal 70
Ensenada, Baja California, Mexico]

89-002053 Hendrickson, Dean A. and James E. Brooks. COLORADO RIVER
REINTRODUCTION STUDIES. *Proc. Desert Fishes Comm.* 18:201-203. 1987. 1 p.
Spanish abstract only. FR 34(2)

[Game & Fish Dep., 2222 W. Greenway Rd., Phoenix, AZ 85021]

89-002054 Hood, Peter B.; Kenneth W. Able and Churchill B. Gimes. ADULT
REPRODUCTIVE BIOLOGY OF THE CONGER EEL, *CONGER OCLANCTUS*, IN
ATLANTIC BIGHT. *Trans. Northeast Fish Wildl. Conf.* 41, p. 241. 1989. Abstract
34(2)

[Harbor Branch Found., Inc., R.R. 1, Box 196, Fort Pierce, FL 33450]

89-002055 Incze, Lewis S.; C. Macgill Lynde; Suam Kim and Richard Strickland.
POLLOCK, *THERACRA CHALCOGRAMMA*, IN THE EASTERN BERING SEA. In
Synopsis: Life Histories of Selected Fish and Shellfish of the Northeast Pacific and
Sea. Norman J. Wilimovsky, Lewis S. Incze and S. J. Westrheim, editors, p. 55.
FR 34(2)

[Bigelow Lab. Ocean Sci., West Boothbay Harbor, ME 04575]

89-002056 Jellyman, Don. EEL LIFE HISTORY STILL A MYSTERY. *Freshwater* 37, p. 11-12. 1988. FR 34(2)

Anguilla australis and *A. dieffenbachii*.

89-002057 Johnston, C. E. and J. C. Choverro. OBSERVATIONS ON THE
SEASONAL DRIFT OF EGGS AND LARVAE OF ANADROMOUS RAINBOW SMelt,
MOROX, AND BLUEBACK HERRING, *ALOSA AESTIVALE*, IN A COASTAL STRAIT
PRINCE EDWARD ISLAND. *Can. Field-Nat.* 102(3):508-514. 1988. FR 34(2)

[Univ. Prince Edward Island, Biol. Dep., Charlottetown, PE, Canada C1A 4B4]

89-002058 Kellermann, A. [ON THE BIOLOGY OF EARLY LIFE STAGES OF BOTTLE
FISHES (PISCES) OFF THE ANTARCTIC PENINSULA.] *Inst. Polarokut. Kiel Univ.*
1986. In German. From U.S. Government Reports 88(3):202. 1988. Available from
TIB/A87-80865/GAR. FR 34(2)

89-002059 Kim, Suam and Donald R. Gunderson. WALL-EYE POLLOCK, *THERACRA*
CHALCOGRAMMA, IN THE GULF OF ALASKA. In: Species Synopsis: Life Histories
Selected Fish and Shellfish of the Northeast Pacific and Bering Sea. Norman J. Wilimovsky,
Lewis S. Incze and S. J. Westrheim, editors, p. 70-82. 1988. FR 34(2)

[Coll. Ocean & Fish. Sci., WH-10, Univ. Wash., Seattle, WA 98195]

[Casp. Fish. Res. Unit, Biol. Dep., Mont. State Univ., Bozeman 59711] *Oncorhynchus clarki lewisi*.

89-002062 Lyczkowski-Shultz, J.; J. P. Steen and B. H. Comyns. EARLY LIFE HISTORY OF RED DRUM (*SCIAENOPS OCELLATUS*) IN THE NORTHCENTRAL GULF OF MEXICO. *Gulf Coast Res. Lab.* 163p. 1988. From U.S. Government Reports 88(19):16. 1988. Available from NTIS as PB89-216254/GAR. FR 34(2)

89-002063 Maraldo, David C. and Hugh R. MacCrimmon. REPRODUCTION, DISTRIBUTION, AND POPULATION SIZE OF LARGEMOUTH BASS, *MICROPTERUS SALMOIDES*, IN AN OLIGOTROPHIC PRECAMBRIAN SHIELD LAKE. *Can. Field-Nat.* 95(3):298-306. 1991. FR 34(2)

[Algoma Fish. Assess. Unit, Ontario Minist. Nat. Resour., P.O. Box 130, 69 Church St., Sault Ste. Marie, ON, Canada P6A 5L5]

89-002064 Marnell, Leo F. STATUS OF THE WESTSLOPE CUTTHROAT TROUT IN GLACIER NATIONAL PARK, MONTANA. *Am. Fish. Soc. Symp.* 4:61-70. 1988. FR 34(2)

[U.S. Natl. Park Serv., Glacier Natl. Park, West Glacier, MT 59936] *Oncorhynchus clarki lewisi*.

89-002065 McNatt, Randy M. PRESENT STATUS AND RECOVERY POTENTIAL OF THE BIG SPRING SPINEDACE (*LEPIDOMEDA MOLLISPINIS PRATENSIS*). *Proc. Desert Fishes Council*. 18:197. 1987. Abstract only. FR 34(2)

[U.S. Fish & Wildl. Serv., Reno, NV 89431]

89-002066 Meffe, Gary K. LIFE HISTORY PATTERNS OF *GAMBUSIA MARSHI* FROM CUATRO CIENEGAS, MEXICO. *Proc. Desert Fishes Council*. 17:125. 1987. Abstract only. FR 34(2)

[Savannah River Ecol. Lab., Univ. Ga., Drawer E, Aiken, SC 29801]

89-002067 Moore, A. and A. Scott. OBSERVATIONS OF RECENTLY EMERGED SEA TROUT, *SALMO TRUTTA* L., FRY IN A CHALK STREAM, USING A LOW-LIGHT UNDERWATER CAMERA. *J. Fish Biol.* 33(6):959-960. 1988. FR 34(2)

[MAFF, Dir. Fish. Res., Fish. Lab., Lowestoft, Suffolk NR33 0HT, England]

89-002068 Nasir, N. A.; A. K. Naama and A. Al-Saboonchi. THE DISTRIBUTION, LENGTH-WEIGHT RELATIONSHIPS, FOOD AND FEEDING OF THE CYPRINID FISH *BARBUS SHARPEYI* FROM AL-HAMMAR MARSH, IRAQ. *Fish. Res.* 7(1-2):175-181. 1989. FR 34(2)

[Mar. Sci. Cent., Univ. Basrah, Basrah, Iraq]

89-002069 Noble, Richard L. and Raymond D. Germany. CHANGES IN FISH POPULATIONS OF TRINIDAD LAKE, TEXAS, IN RESPONSE TO ABUNDANCE OF BLUE TILAPIA. In: *Fish Culture in Fisheries Management*, Richard Stroud, editor. p. 455-461. 1986. FR 34(2)

[Dep. Zool., N.C. State Univ., Raleigh 27695-7617]

Northeast Pacific and Bering Sea. Norman J. Willmovsky, Lewis and S. J. Westrhime, editors. p. 94-111. 1988. FR 34(2)
[Coll. Ocean & Fish. Sci., Univ. Wash., Seattle 98195]

89-002072 Pauley, Gilbert B.; Kevin Oshima; Karen L. Bowers and G. L. Thomas. SPECIES PROFILES: LIFE HISTORIES AND ENVIRONMENTAL REQUIREMENTS OF COASTAL FISHES AND INVERTEBRATES (PACIFIC NORTHWEST): SEA-RUN CUTTHROAT TROUT. *U.S. Fish Wildl. Serv. Biol. Rep.* 82(11.86): 21p. 1989. Available from U.S. Fish & Wildl. Serv., Natl. Wetlands Res. Cent., 1010 Gause Blvd., Slidell, LA 70458. FR 34(2)
[Coop. Fish. Res. Unit, School Fish., Univ. Wash., Seattle 98195] *Salmo clarki clarki*.

89-002073 Percy, William G. and Joseph P. Fisher. MIGRATIONS OF COHO SALMON *ONCORHYNCHUS KISUTCH*, DURING THEIR FIRST SUMMER IN THE OCEAN. *U.S. Natl. Mar. Fish. Serv. Fish. Bull.* 86(2):173-195. 1988. FR 34(2)
[Fisher: Coll. Oceanogr., Oreg. State Univ., Corvallis 97331]

89-002074 Pearsons, Todd N. POSSIBLE REASONS FOR THE DECLINE OF THE OREGON CHUB (*OREGONICHTHYS CRAMERI*). *Proc. Desert Fishes Council.* 18:245. 1987. English and Spanish abstract only. FR 34(2)
[Dep. Fish. & Wildl., Oreg. State Univ., Corvallis 97331-3803]

89-002075 Penczak, Tadeusz; Maciej Zalewski; Marek Molinski and Krystyna Szpoton. THE ECOLOGY OF ROACH, *RUTILUS RUTILUS* (L.) IN THE BARBEL REGION OF THE POLLUTED PILICA RIVER. I. GROWTH. *Ekol. Pol.* 24(3):473-489. 1976. FR 34(2)
[Dep. Comp. Anat. & Anim. Ecol., Inst. Bot. & Zool., Univ. Lodz, ul. Banacha 12/16, 90 273 Lodz, Poland]

89-002076 Pottern, Gerald B.; Melvin T. Huish and J. Howard Kerby. SPECIES PROFILES: LIFE HISTORIES AND ENVIRONMENTAL REQUIREMENTS OF COASTAL FISHES AND INVERTEBRATES (MID-ATLANTIC): BLUEFISH. *U.S. Fish Wildl. Serv. Biol. Rep.* 82(11.94):20p. 1989. Available from U.S. Fish & Wildl. Serv., Natl. Wetlands Res. Cent., 1010 Gause Blvd., Slidell, LA 70458. FR 34(2)
[Coop. Fish. Res. Unit, Dep. Zool., N.C. State Univ., Raleigh 27695] *Pomatomus saltatrix*.

89-002077 Poulin, R. and G. J. FitzGerald. EARLY LIFE HISTORIES OF THREE SYMPATRIC STICKLEBACKS IN A SALT-MARSH. *J. Fish Biol.* 34(2):207-221. 1989. FR 34(2)
[Dep. Biol., Univ. Laval, Ste-Foy, PQ, Canada G1K 7P4] *Gasterosteus aculeatus*, *G. wheatlandi*, and *Pungitius pungitius*.

89-002078 Quinn, John R. THE BEST AND THE BRIGHTEST: THE COSMOPOLITAN CHAETODON. *Trop. Fish Hobbyist* 37(4):59-64, 67-68. 1988. FR 34(2)
Enneacanthus chaetodon in New Jersey.

89-002081 Savoy, Thomas F. and Victor A. Crecco. THE TIMING AND SIGNIFICANCE OF DENSITY-DEPENDENT AND DENSITY-INDEPENDENT MORTALITY OF AMERICAN SHAD, *ALOSA SAPIDISSIMA*. U.S. Natl. Mar. Fish Serv. Fish. Bull. 86(3):467-482. 1988. FR 34(2)
[Crecco: Dep. Environ. Protection, Mar. Fish. Office, Waterford, CT 06385]

89-002082 Sevon, Mike and Dan Delany. DEVELOPMENT OF BLUE LINK SPRING A REFUGIUM FOR HIKO WHITE RIVER SPRINGFISH. *Proc. Desert Fishes Council*. 17:165-173. 1987. In English with Spanish summ. FR 34(2)

89-002083 Shimizu, Hirofumi; Kaoru Nakata and Hiroshi Nakano. COMPARISON OF NUTRITIONAL CONDITION OF SARDINE LARVAE, *SARDINOPS MELANOSTICTUS* (T & S) TAKEN FROM THE COASTAL AND OFFSHORE REGION OF THE KUROSHIO CURRENT. *Bull. Jpn. Soc. Sci. Fish.* 55(1):179. 1989. In English. FR 34(2)
[Tokai Regional Fish. Res. Lab., Kachidoki, Chuo, Tokyo 104, Japan]

89-002084 Shireman, Jerome V. and Mark V. Hover. ASSESSMENT OF GRASS CARP FOR WEED MANAGEMENT IN AN 80-HECTARE FLORIDA LAKE. In: *Fish Culture in Fisheries Management*. Richard Stroud, editor. p. 469-474. 1986. FR 34(2)
[Dep. Fish. & Aquacult., Univ. Fla., Gainesville 32611]

89-002085 Smith, John B. and Wayne A. Hubert. GROWTH, POPULATION STRUCTURE, AND MORTALITY OF CHANNEL CATFISH FROM THE POWDER RIVER AND CRAZY WOMAN CREEK, WYOMING. *Prairie Nat.* 20(3):127-133. 1988. FR 34(2)
[U.S. Fish & Wildl. Serv., Wyo. Coop. Fish & Wildl. Res. Unit., Box 3166, Univ. Stn., Laramie 82071] *Ictalurus punctatus*.

89-002086 Stuber, Robert J.; Bruce D. Rosenlund and James R. Bennett. GREENBACK CUTTHROAT TROUT RECOVERY PROGRAM: MANAGEMENT OVERVIEW. *Am. Fish. Soc. Symp.* 4:71-74. 1988. FR 34(2)
[U.S. For. Serv., Laconia, NH 03247] *Oncorhynchus clarki stomias* in Colorado.

89-002087 Tapia Garcia, M.; A. Yanez-Arancibia; P. Sanchez-Gil and Ma. de la C. Garcia Abad. [BIOLOGY AND ECOLOGY OF *CYNOSCION NOTHUS* (HOLBROOK). IN THE DEMERSAL COMMUNITIES OF THE CONTINENTAL SHELF OF THE SOUTHERN GULF OF MEXICO.] *Rev. Biol. Trop.* 36(1):29-54. 1988. In Spanish with English summ. FR 34(2)
[Univ. Autonoma Metropolitana-Iztapalapa, D.C.B.S. Dep. Hidrobiol., Apt. 55-532 Mexico 09340]

89-002088 Tapia Garcia, M.; A. Yanez-Arancibia; P. Sanchez-Gil and Ma. de la C. Garcia Abad. [BIOLOGY AND ECOLOGY OF *CYNOSCION ARENARIUS* GINSBURG, IN THE DEMERSAL COMMUNITIES OF THE CONTINENTAL SHELF OF THE

89-002059 Taylor, D. Scott. OBSERVATIONS ON THE ECOLOGY OF THE KILLIFISH *RIVULUS MARMORATUS* (CYPRINODONTIDAE) IN AN INFREQUENTLY FLOODED MANGROVE SWAMP. *Northeast Gulf Sci.* 10(1):63-68. 1988. FR 34(2)
[Brevard Mosquito Control Dist., P.O. Box 728, Titusville, FL 32780]

89-002090 Thibault, M.; H. Guirrec; G. Huet; J.-Y. Kermarrec; A. Nihouarn; Y. Penne and H. Touzery. [THE ATLANTIC SALMON IN BRITTANY. PRESENT SITUATION AND PERSPECTIVES.] In: *The Restoration of Salmonid Rivers*. M. Thibault and R. Billard, editors. p. 327-334. 1987. In French with English summ. FR 34(2)
[Lab. Ecol. Hydrobiol., 65 rue St. Briec, 35042 Rennes Cedex, France] *Salmo salar* in France.

89-002091 Thurow, Russell F.; Charles E. Corsi and Virgil K. Moore. STATUS, ECOLOGY AND MANAGEMENT OF YELLOWSTONE CUTTHROAT TROUT IN THE UPPER SNAKE RIVER DRAINAGE, IDAHO. *Am. Fish. Soc. Symp.* 4:25-36. 1988. FR 34(2)
[Dep. Fish & Game, Box 2111, Hailey, ID 83333] *Oncorhynchus clarki bouvieri*.

89-002092 Trotter, Patrick C. and Peter A. Bisson. HISTORY OF THE DISCOVERY OF THE CUTTHROAT TROUT. *Am. Fish. Soc. Symp.* 4:8-12. 1988. FR 34(2)
[Weyerhaeuser Co., Technol. Cent., Tacoma, WA 98477] *Oncorhynchus clarki*.

89-002093 Valdes, E. and M. C. Sotolongo. [SOME BIOLOGICAL AND FISHERY ASPECTS OF THREAD HERRING (*OPISTHONEMA OGLINUM*) ON THE CUBAN COASTAL SHELF.] *Rev. Cubana Invest. Pesq.* 8(1):66-96. 1983. In Spanish with English summ. FR 34(2)

89-002094 Varley, John D. and Robert E. Gresswell. ECOLOGY, STATUS, AND MANAGEMENT OF THE YELLOWSTONE CUTTHROAT TROUT. *Am. Fish. Soc. Symp.* 4:13-24. 1988. FR 34(2)
[U.S. Natl. Park Serv., P.O. Box 168, Yellowstone Natl. Park, WY 82190] *Oncorhynchus clarki bouvieri*.

89-002095 Wilimovsky, Norman J.; Lewis S. Incze and S. J. Westheim, editors. SPECIES SYNOPSES: LIFE HISTORIES OF SELECTED FISH AND SHELLFISH OF THE NORTHEAST PACIFIC AND BERING SEA. *Wash. Sea Grant Program* 111p. 1988. Available at \$10.00 from Washington Sea Grant Program, 3716 Brooklyn Ave. NE, Seattle, WA 98105. FR 34(2)
Selected chapters indexed in this issue of *Fisheries Review*. *Clupea harengus pollasi*, *Ammodytes hexapterus*, *Theragra chalcogramma*, and *Hippoglossus stenolepis*.

89-002096 Williams, D. Dudley and J. Charles Delbeek. BIOLOGY OF THE THREESPINE STICKLEBACK, *CASTEROSTEUS ACULEATUS*, AND THE BLACKSPOTTED STICKLEBACK, *G. WHEATLANDI*, DURING THEIR MARINE PELAGIC PHASE IN THE BAY OF FUNDY, CANADA. *Environ. Biol. Fishes* 24(1):33-41. 1989. FR 34(2)
[Div. Life Sci., Univ. Toronto, 1265 Military Trail, Scarborough, ON, Canada M1C 1A4]

POPULATION STUDIES, PRODUCTION, RECRUITMENT, ETC.

- 89-002097 Anderson, John T. A REVIEW OF SIZE DEPENDENT SURVIVAL DURING PRE-RECRUIT STAGES OF FISHES IN RELATION TO RECRUITMENT. *J. Northwest Atl. Fish. Sci.* 8:55-66. 1988. FR 34(2)
[Dep. Fish. & Oceans, Sci. Branch, Northwest Atlantic Fish. Cent., P.O. Box 5667, St. John's, NF, Canada A1C 5X1]
- 89-002098 Bestgen, Kevin; David L. Propst and Charles W. Painter. TRANSPORT ECOLOGY OF LARVAL FISHES IN THE GILA RIVER, NEW MEXICO. *Proc. Desert Fishes Council*. 17:174-175. 1987. English and Spanish abstract only. FR 34(2)
[Colo. State Univ., Dep. Fish. & Wildl. Biol., Fort Collins 80523] *Meda fulgida*, *Agosia chrysogaster*, *Tiaroga cobitis*, *Catostomus insignis*, and *C. clarki*.
- 89-002099 Burr, Brooks M.; Bernard R. Kuhajda; Walter W. Dimmick and James M. Grady. DISTRIBUTION, BIOLOGY, AND CONSERVATION STATUS OF THE CAROLINA MADTOM, *NOTURUS FURIOSUS*, AN ENDEMIC NORTH CAROLINA CATFISH. *Brimleyana* No. 15. p. 57-86. 1989. FR 34(2)
[Dep. Zool., South. Ill. Univ., Carbondale 62901]
- 89-002100 Green, David M. POST-STOCKING SURVIVAL OF WALLEYE FINGERLINGS IN CANADARAGO LAKE, NEW YORK. In: *Fish Culture in Fisheries Management*. Richard Stroud, editor. p. 381-389. 1986. FR 34(2)
[Dep. Nat. Resour., Cornell Univ., Ithaca, NY 14853] *Stizostedion vitreum vitreum*.
- 89-002101 Logan, Dennis T. ENVIRONMENTAL REGULATION OF STRIPED BASS POPULATIONS. *Trans. Northeast Fish Wildl. Conf.* 41. p. 242. 1984. Abstract only. FR 34(2)
[Mar. Ecol. Res., Inc., 14 Carol Ln., Tappan, NY 10983] *Morone saxatilis*.
- 89-002102 Macpherson, Enrique. INFLUENCE OF GEOGRAPHICAL DISTRIBUTION, BODY SIZE AND DIET ON POPULATION DENSITY OF BENTHIC FISHES OFF NAMIBIA (SOUTH WEST AFRICA). *Mar. Ecol. Prog. Ser.* 50(3):295-299. 1989. FR 34(2)
[Inst. Cienc. Mar, Paseo Nac. s/n, 08003 Barcelona, Spain]
- 89-002103 Marion, Jean Phillipe. [ALEVIN PRODUCTION IN *DICENTRARCHUS LABRAX*]. *Proc. Gulf Caribb. Fish. Inst.* 38:113-119. 1987. In French. FR 34(2)
[Aquamar S.A., Pointe-Lynche, 97231 Le Robert, Martinique]
- 89-002104 Matlock, Gary C. THE ROLE OF HURRICANES IN DETERMINING YEAR-CLASS STRENGTH OF RED DRUM. *Contrib. Mar. Sci.* 30:39-47. 1987. FR 34(2)
[Parks & Wildl. Dep., 4200 Smith School Rd., Austin, TX 78744] *Sciaenops ocellatus*.
- 89-002105 Moulton, Lawrence L. RECRUITMENT OF ARCTIC CISCO (*COREGONUS AUTUMNALIS*) INTO THE COLVILLE DELTA, ALASKA, IN 1985. *Biol. Pap. Univ. Alaska* No. 24. p. 107-111. 1989. FR 34(2)
[Environ. Sci. & Eng., Inc., P.O. Box 11227, Winslow, WA 98110]

STATES: AMERICAN SHAD, HICKORY SHAD, ALEWIFE, AND BLUEBACK HERRING. *Trans. Northeast Fish Wildl. Conf.* 41, p. 224. 1984. Abstract only. FR 34(2)
[Martin Marietta Environ. Syst., 9200 Rumsey Rd., Columbia, MD 21045] *Alosa aestivalis*,
A. pseudoharengus, *A. mediacris*, and *A. sapidissima*.

89-002108 Ross, Steve W. AGE, GROWTH, AND MORTALITY OF ATLANTIC CROAKER IN NORTH CAROLINA, WITH COMMENTS ON POPULATION DYNAMICS. *Trans. Am. Fish.* 117(5):461-473. 1988. FR 34(2)
[Zool. Dep., Box 7617, N.C. State Univ., Raleigh 27695] *Micropogonias undulatus*.

89-002109 Townsend, C. R. and M. R. Perrow. EUTROPHICATION MAY PRODUCE POPULATION CYCLES IN ROACH, *Rutilus rutilus* (L.), BY TWO CONTRASTING MECHANISMS. *J. Fish Biol.* 34(1):161-164. 1989. FR 34(2)
[Dep. Zool., Univ. Otago, P.O. Box 56, Dunedin, New Zealand]

89-002110 Young, Cliff, editor. DRAFT MANAGEMENT PLAN RELEASED FOR BARRAMUNDI. *FINS* 21(3):28-31. 1989. FR 34(2)
[108 Adelaide Terrace, Perth, W.A., Australia] *Lates calcarifer*.

SPAWNING HABITS AND MOVEMENTS, FECUNDITY, ETC.

89-002111 Alheit, Jurgen. REPRODUCTIVE BIOLOGY OF SPRAT (*SPRATTUS SPRATTUS*) FACTORS DETERMINING ANNUAL EGG PRODUCTION. *J. Cons. Cons. Int. Explor.* 44(2):162-169. 1989. FR 34(2)
[Alfred Wegener Inst. Polar & Mar. Res., Columbusstr., D-2850 Bremerhaven, Germany]

89-002112 Buckley, Jack and Boyd Kynard. HABITAT USE AND BEHAVIOR OF SPAWNING SHORTNOSE STURGEON IN THE CONNECTICUT RIVER. *Trans. Northeast Fish Wildl. Conf.* 41, p. 251. 1984. Abstract only. FR 34(2)
[Coop. Fish. Res. Unit, Univ. Mass., Amherst 01003] *Acipenser brevirostrum*.

89-002113 Collins, Mark R. and Jay L. Pinckney. SIZE AND AGE AT MATURITY OF VERMILION SNAPPER (*RHOMBOPLITES AURORUBENS*) (LUTJANIDAE) IN THE SOUTH ATLANTIC BIGHT. *Northeast Gulf Sci.* 10(1):51-53. 1988. FR 34(2)
[Wildl. & Mar. Resour. Dep., Mar. Resour. Res. Inst., P.O. Box 12559, Charleston 29412]

89-002114 Crisp, D. T. and P. A. Carling. OBSERVATIONS ON SITING, DIMENSIONS AND STRUCTURE OF SALMONID REDDS. *J. Fish Biol.* 34(1):119-134. 1989. FR 34(2)

89-002116 Kjesbu, O. S. THE SPAWNING ACTIVITY OF COD, *GADUS MORHUA* L. J. F. Biol. 34(2):195-206. 1989. FR 34(2)

[Inst. Mar. Res., Dir. Fish., P.O. Box 1870, N-5024 Bergen-Nordnes, Norway]

89-002117 Kondoli, George Mathias. SALMONID SPAWNING GRAVELS: A GEOMORPHIC PERSPECTIVE ON THEIR SIZE DISTRIBUTION, MODIFICATION BY SPAWNING FISH, AND CRITERIA FOR GRAVEL QUALITY. Ph.D. dissertation, Johns Hopkins Univ. 419p. 1989. From Diss. Abstr. Int. B Sci. Eng. 49(7):2475. 1989. Order No. DA8919078. FR 34(2)

89-002118 Lobel, Phillip S. OCEAN CURRENT VARIABILITY AND THE SPAWNING SEASONS OF HAWAIIAN REEF FISHES. *Environ. Biol. Fishes* 24(3):161-171. 1989. FR 34(2)

[Woods Hole Oceanogr. Inst., Woods Hole, MA 02543] *Centropyge potteri*, *Chaetodon multicinctus*, *Ctenochaetus strigosus*, and *Zebrafish flavescens*.

89-002119 McKaye, K. R. and J. R. Stauffer, Jr. SEASONALITY, DEPTH AND HABITAT DISTRIBUTION OF BREEDING MALES OF *ORLEOCHROMIS* SPP., 'CHAMBO', IN L. MALAWI NATIONAL PARK. *J. Fish Biol.* 33(6):825-834. 1988. FR 34(2)

[Appalachian Environ. Lab., Univ. Md., Frostburg 21532]

89-002120 Pylon, Mark. ASPECTS OF FATHEAD MINNOW REPRODUCTIVE BEHAVIOR. M.S. thesis, Univ. N. Tex. 78p. 1988. From Masters Abstr. Int. 27(1):76. 1989. Order MA1333565. FR 34(2)

Pimephales promelas.

89-002121 Rajasilta, M.; J. Eklund; J. Kaaria and K. Ranta-aho. THE DEPOSITION AND MORTALITY OF THE EGGS OF THE BALTIC HERRING, *CLUPEA HARENGUS MEMBRAS* ON DIFFERENT SUBSTRATES IN THE SOUTH-WEST ARCHIPELAGO OF FINLAND. *J. Biol.* 34(3):417-427. 1989. FR 34(2)

[Dep. Biol. Univ. Turku, SF-20500 Turku, Finland]

89-002122 Roberts, C. D. REPRODUCTIVE MODE IN THE PERCOMORPH FISH GENUS *POLYPRION* OKEN. *J. Fish Biol.* 34(1):1-9. 1989. FR 34(2)

[Dep. Fishes, Natl. Mus. New Zealand, P.O. Box 467, Wellington, New Zealand] *americanus* in New Zealand.

89-002123 Sly, Peter G. INTERSTITIAL WATER QUALITY OF LAKE TROUT SPAWNING HABITAT. *J. Great Lakes Res.* 14(3):301-315. 1988. FR 34(2)

[Natl. Water Res. Inst., Canada Cent. Inland Waters, Box 5050, Burlington, ON, Canada L7R 4A6] *Salvelinus namaycush*.

Freshwater Ecol. 4(4):419-424, 1985. FR 34(2)

[East. Rivers Group, FBA, c/o Regional Fish. Lab., Bromholm Ln., Brampton Huntingdon, Cambridgeshire, England] *Gobio gobio* in France.

89-002126 Creaser, Edwin P. and David A. Libby. SEASONAL MOVEMENTS OF JUVENILE AND ADULT HERRING (*CLUPEA HARENGUS* L.) TAGGED ALONG THE MAINE AND NEW HAMPSHIRE COASTS IN 1976-82. *J. Northwest Atl. Fish. Sci.* 8:33-42, 1988. FR 34(2)

[Dep. Mar. Resour., Fish. Res. Lab., West Boothbay Harbor, ME 04575]

89-002127 Godo, Olav Rune and Tore Haug. TAGGING AND RECAPTURE OF ATLANTIC HALIBUT (*HIPPOGLOSSUS HIPPOGLOSSUS* L.) ON THE CONTINENTAL SHELVES OF EASTERN CANADA, AND OFF WESTERN AND EASTERN GREENLAND. *J. Northwest Atl. Fish. Sci.* 8:25-31, 1988. FR 34(2)

[Dir. Fish., Inst. Mar. Res., P.O. Box 1870, N-5011 Bergen-Nordne, Norway]

89-002128 Godo, Olave Rune and Tore Haug. TAGGING AND RECAPTURE OF ATLANTIC HALIBUT (*HIPPOGLOSSUS HIPPOGLOSSUS*) IN NORWEGIAN WATERS. *J. Cons. Explor. Mer* 44(2):169-179, 1988. FR 34(2)

[Dir. Fish., Inst. Mar. Res., P.O. Box 1870, N-5011 Bergen-Nordnes, Norway]

89-002129 Hampton, Kent E.; Thomas L. Wenke and Bruce A. Zamrzla. MOVEMENTS OF ADULT STRIPED BASS TRACKED IN WILSON RESERVOIR, KANSAS. *Prairie Nat.* 113:1-10, 1988. FR 34(2)

[Dep. Entomol., Kans. State Univ., Manhattan 66506] *Morone saxatilis*.

89-002130 Hockin, D. C.; K. O'Hara and J. W. Eaton. A RADIOTELEMETRIC STUDY OF THE MOVEMENTS OF GRASS CARP IN A BRITISH CANAL. *Fish. Res.* 7(1-2):73-84, 1988. FR 34(2)

[Eaton: Dep. Zool., Univ. Liverpool, P.O. Box 147, Liverpool L69 3BX, England] *Ctenopharyngodon idella*.

89-002131 Larson, R. J.; W. H. Lenarz and T. Wyllie Echeverria. DISTRIBUTION AND MOVEMENTS OF PELAGIC JUVENILE ROCK-FISHES IN RELATION TO UPWELLING PLUMES OFF CENTRAL CALIFORNIA. *Am. Zool.* 28(4):6A, 1988. Abstract only. FR 34(2)

[San Francisco State Univ., San Francisco, CA]

89-002132 O'Leary, John and Boyd Kynard. SEASONAL AND CIRCADIAN MOVEMENT PATTERNS OF THE DOWNSTREAM MIGRATION OF JUVENILE AMERICAN SHAD AND BLUEBACK HERRING IN THE CONNECTICUT RIVER. *Trans. Northeast Fish. Wildl. C.* 41, p. 250, 1984. Abstract only. FR 34(2)

[Coop. Fish. Res. Unit, Univ. Mass., Amherst 01003] *Alosa sapidissima* and *A. aestivalis*

89-002133 Squire, James L. STRIPED MARLIN, *TETRAPTURUS AUDAX*, MIGRATION PATTERNS AND RATES IN THE NORTHEAST PACIFIC OCEAN AS DETERMINED BY A COOPERATIVE TAGGING PROGRAM: ITS RELATION TO RESOURCE MANAGEMENT. *Mar. Fish. Rev.* 46(1):1-10, 1984. Abstract only. FR 34(2)

- 89-002135 Ates, R. M. L. FISHES THAT EAT SEA ANEMONES. A REVIEW *J. Nat. Hist.* 23(1):71-79. 1989. FR 34(2)
[Gov. Flinckstr. 19, 1506 LL Zaandam, Netherlands] Data for 56 species.
- 69-002136 Barthelmes, Detlev. FISH PREDATION AND RESOURCE REACTION, BIOMANIPULATION BACKGROUND DATA FROM FISHERIES RESEARCH. *Limnologica* 19(1):51-59. 1988. In English with German summ. FR 34(2)
[Inst. Binnenfischerei, Muggelseedamm 310, DDR-1162, Berlin-Friedrichshagen, East Germany] *Esox lucius* and *Perca fluviatilis* in Europe.
- 89-002137 Brodeur, R. D.; B. C. Mundy; W. G. Pearcy and R. W. Wisseman. NELSONIC FAUNA IN COASTAL WATERS OF THE NORTHEAST PACIFIC: ABUNDANCE, DISTRIBUTION, AND UTILIZATION BY JUVENILE SALMONIDS. *Sea Grant Coll. Prog. Oreg. State Univ.* ORESU-T-87-001. 69p. 1987. From U.S. Government Reports 87(18):18. 1987. Available from NTIS as PB87-198420/GAR. FR 34(2)
Oncorhynchus kisutch and *O. tshawytscha*.
- 89-002138 Cirilo-Sanchez, Hugo and Gorgonio Ruiz-Campos. FEEDING HABITS OF THE SAN PEDRO MARTIR TROUT, *SALMO NELSONI*. *Proc. Desert Fishes Council*. 17:150-155. 1987. In English and Spanish. FR 34(2)
[Dep. Ichthyol., School Biol., Univ. Nuevo Leon., Monterrey, N.L., Mexico]
- 89-002139 Collie, J. S. FEEDING HABITS OF THE YELLOWTAIL FLOUNDER AND PRODUCTION OF ITS INVERTEBRATE PREY ON GEORGES BANK. *Woods Hole Oceanogr. Inst.* WHOI-85-32. 176p. 1985. From U.S. Government Reports 87(18):221. 1987. Available from NTIS as PB87-260127/GAR. FR 34(2)
Limanda ferruginea.
- 89-002140 Creutzberg, F. and J. J. Witte. AN ATTEMPT TO ESTIMATE THE PREDATORY PRESSURE EXERTED BY THE LESSER WEEVER, *TRACHINUS VIPERA* CUVIER, IN THE SOUTHERN NORTH SEA. *J. Fish Biol.* 34(3):429-449. 1989. FR 34(2)
[Netherlands Inst. Sea Res., P.O. Box 59, 1790 AB Den Burg, Texel, Netherlands]
- 89-002141 Dew, C. Braxton. STOMACH CONTENTS OF COMMERCIALY CAUGHT HUDSON RIVER STRIPED BASS, *MORONE SAXATILIS*, 1973-75. *U.S. Natl. Mar. Fish. Serv. Fish. Bull.* 86(2):397-401. 1988. FR 34(2)
[Northwest & Alaska Fish. Cent. Kodiak Lab., NMFS, NOAA, P.O. Box 1638, Kodiak 99515]

HABITS OF THE ADULT EUROPEAN EEL (*ANGUILLA ANGUILLA*) IN LAKE KINNERET (LAKE TIBERIAS), ISRAEL. *Aquaculture* 74(3/4):349-354. 1988. FR 34(2)
[Dep. Zool., Hebrew Univ., Jerusalem, Israel]

89-002144 Gwynne, Darryl T. DOES COPULATION INCREASE THE RISK OF PREDATION? *Trends Ecol. Evol.* 4(2):54-56. 1989. FR 34(2)
[Zool. Dep., Erindale Campus, Univ. Toronto, Mississauga, ON, Canada L5L 1C6] *Perca fluviatilis*.

89-002145 Hairston, Nelson G., Jr. INTERANNUAL VARIATION IN SEASONAL PREDATION: ITS ORIGIN AND ECOLOGICAL IMPORTANCE. *Limnol. Oceanogr.* 33(6, part 1):1245-1253. 1988. FR 34(2)
[Sect. Ecol. & Syst., Cornell Univ., Ithaca, NY 14853]

89-002146 Hajek, Ernst R., editor. INTERNATIONAL WORKSHOP "INTERACTION BETWEEN TROPHIC LEVELS: TOWARD A SYNTHESIS OF NORTH- AND SOUTH-AMERICAN RESEARCH RESULTS" SANTIAGO, CHILE, 20-28 AUGUST 1986. *Rev. Chil. Hist. Nat.* 60(2):127-366. 1987. In English with Spanish summ. FR 34(2)
[Dep. Biol. Ambiental & Poblaciones, Fac. Cienc. Biol., Pontificia Univ. Catolica, Santiago, Chile] Selected papers indexed in this issue of *Fisheries Review*.

89-002147 Henderson, P. A. and R. H. A. Holmes. WHITING MIGRATION IN THE BRISTOL CHANNEL: A PREDATOR-PREY RELATIONSHIP. *J. Fish Biol.* 34(3):409-416. 1989. FR 34(2)
[Mar. Biol. Unit., Fawley Power Stn., Fawley, Southampton SO4 1TW, England] *Merlangius merlangus*.

89-002148 Herbold, Bruce Leroy. PATTERNS OF CO-OCCURRENCE AND RESOURCE USE IN A NONCOEVOLVED ASSEMBLAGE OF FISHES. *Ph.D. dissertation, Univ. Calif. (Davis)* 91p. 1987. From Diss. Abstr. Int. B Sci. Eng. 49(7):2474. 1989. Order No. DA8809757. FR 34(2)

89-002149 Hourigan, Thomas F.; Frank G. Stanton; Philip J. Motta; Christopher D. Keller and Bruce Carlson. THE FEEDING ECOLOGY OF THREE SPECIES OF CARIBBEAN ANGEFISHES (FAMILY POMACANTHIDAE). *Environ. Biol. Fishes* 24(2):105-116. 1989. FR 34(2)
[Dep. Zool., Univ. Hawaii, Honolulu 96822] *Holocanthus tricolor*, *Pomacanthus arcuatus* and *P. porus*.

89-002150 Johnsen, B. O. and O. Ugedal. FEEDING BY HATCHERY-REARED BROWN TROUT, *Salmo trutta* L., RELEASED IN LAKES. *Aquacult. Fish. Manage.* 20(1):97-101. 1989. FR 34(2)
[Norwegian Inst. Nat. Res., Tungasletta 2, N-7004, Trondheim, Norway]

89-002151 Jones, G. P. FOOD AVAILABILITY AFFECTS GROWTH IN A CORAL REEF FISH. *Oecologia (Berl.)* 70(1):136-139. 1986. FR 34(2)
[School Biol. Sci., Univ. Sydney, Sydney, N.S.W. 2006, Australia] *Pomacentrus amboinensis* in Australia.

Tokyo Univ. Fish., Tokyo, Japan; Tokyo Lab., Japan; University of Tokyo, Tokyo, Japan; Berings Sea.

89-002154 Klumpp, D. W. and N. V. C. Polunin. PARTITIONING AMONG GRAZERS OF FOOD RESOURCES WITHIN DAMSELFISH TERRITORIES ON A CORAL REEF. *J. Exp. Mar. Biol. Ecol.* 125(2):145-169. 1989. FR 34(2)

[Inst. Mar. Sci., PMB 3, Townsville MC, Australia] *Stegastes apicalis* in Australia.

89-002155 Kohler, Nancy E. ASPECTS OF THE FEEDING ECOLOGY OF THE BLUE SHARK, *PRIONACE GLAUCA* IN THE WESTERN NORTH ATLANTIC. *Ph.D. dissertation, Univ. R.I.* 179p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(7):2452-2453. 1989. Order No. DA8911561. FR 34(2)

89-002156 Kopke, Ute; Heinz Schultz; Raymond Jarchow; Uwe Hornig and Jens Penig. AN INVESTIGATION OF THE FOOD CONSUMPTION IN PERCH *PERCA FLUVIATILIS* IN THE BAUTZEN RESERVOIR. *Limnologica* 19(1):37-43. 1989. In German with English summ. FR 34(2)

[Technische Univ., Sekt. Wasserwesen, Bereich Hydrobiol., Mommsenstr. 13, DDR-8027, Dresden, East Germany]

89-002157 Luecke, Chris. PREDATION BY CUTTHROAT TROUT ON *CHAOBORUS FLAVICANS* AS REVEALED BY A POPULATION BUDGET. *Limnol. Oceanogr.* 33(6, part 1):1254-1265. 1988. FR 34(2)

[Dep. Fish & Wildl., Utah State Univ., Logan 84322] *Oncorhynchus clarki* in Washington.

89-002158 Mark, W.; R. Hofer and W. Wieser. DIET SPECTRA AND RESOURCE PARTITIONING IN THE LARVAE AND JUVENILES OF THREE SPECIES AND SIX COHORTS OF CYPRINIDS FROM A SUBALPINE LAKE. *Oecologia (Berl.)* 71(3):388-396. 1987. FR 34(2)

[Wieser: Inst. Zool., Univ. Innsbruck, Technikerstr. 25, A-6020 Innsbruck, Austria] *Rutilus rutilus*, *Leuciscus cephalus*, and *Scardinius erythrophthalmus*.

89-002159 McIntyre, John D.; Reginald R. Reisenbichler; John M. Emlen; Richard L. Wilmot and James E. Finn. PREDATION OF KARLUK RIVER SOCKEYE SALMON BY COMO SALMON AND CHARR. *U.S. Natl. Mar. Fish. Serv. Fish. Bull.* 86(3):611-616. 1988. FR 34(2)

[Natl. Fish. Res. Cent., U.S. Fish & Wildl. Serv., Bldg. 204, Naval Stn., Seattle, WA 98115] *Oncorhynchus nerka*, *O. kisutch*, *Salvelinus malma*, and *S. alpinus*.

89-002160 Moksness, Erlend and Victor Oiestad. INTERACTION OF NORWEGIAN SPRING-SPAWNING HERRING LARVAE (*CLUPEA HARENGUS*) AND BARENTS SEA CAPELIN LARVAE (*MALLOTUS VILLOSUM*) IN A MESOCOSM STUDY. *J. Cons. Cons. Int. Explor. Mer* 44(1):32-42. 1987. FR 34(2)

[Inst. Mar. Res., Flødevigen Biol. Stn., N-4800 Arendal, Norway]

FISHES FROM THE INDIAN OCEAN.] *Biol. Nauki (Moscow)* 199(11):41-43. 1988. In Russian with English summ. FR 34(2)

Myrichthys spp., *Muraenichthys* spp., *Saurida undosquamis*, and *Trichlurus lepturus*.

89-002163 Pauly, D ; J. Moreau and Ma. Lourdes D. Palomares. DETRITUS AND ENERGY CONSUMPTION AND CONVERSION EFFICIENCY OF *SAROTHERODON MELANOTHEUS* (CICHLIDAE) IN A WEST AFRICAN LAGOON. *J. Appl. Ichthyol.* 4(4):190-193. 1988. English with German and French summ. FR 34(2)

[Int. Cent. Living Aquat. Resour. Manage., M.C. P.O. Box 1501, Makati, Metro Manila, Philippines]

89-002164 Prejs, A. and K. Prejs. FEEDING OF TROPICAL FRESHWATER FISH. SEASONALITY IN RESOURCE AVAILABILITY AND RESOURCE USE. *Oecologia (Berlin)* 71(3):397-404. 1987. FR 34(2)

[Dep. Hydrobiol., Univ. Warsaw, Nowy Swiat 67, 00-046 Warsaw, Poland]

89-002165 Prejs, Andrzej and Hanna Jackowska. LAKE MACROPHYTES AS THE FOOD OF ROACH (*RUTILUS RUTILUS* L.) AND RUDD (*SCARDINIUS ERYTHROPHthalmus* L.). SPECIES COMPOSITION AND DOMINANCE RELATIONS IN THE LAKE AND FOOD. *Ekol. Pol.* 26(3):429-438. 1978. In English with Polish summ. FR 34(2)

[Dep. Hydrobiol., Inst. Zool., Univ. Warsaw, Nowy Swiat 67, 00-046 Warsaw, Poland]

89-002166 Prejs, Andrzej. LAKE MACROPHYTES AS THE FOOD OF ROACH (*RUTILUS RUTILUS* L.) AND RUDD (*SCARDINIUS ERYTHROPHthalmus* L.). II. DAILY INTAKE OF MACROPHYTE FOOD IN RELATION TO BODY SIZE OF FISH. *Ekol. Pol.* 26(4):537-553. 1978. In English with Polish summ. FR 34(2)

[Dep. Hydrobiol., Inst. Zool., Univ. Warsaw, Nowy Swiat 67, 00-046 Warsaw, Poland]

89-002167 Ruggerone, G. T. GASTRIC EVACUATION RATES AND DAILY RATION OF PISCIVOROUS COHO SALMON, *ONCORHYNCHUS KISUTCH* WALBAUM. *J. Fish Biol.* 34(3):451-463. 1989. FR 34(2)

[Fish. Res. Inst., WH-10, Univ. Wash., Seattle 98195] *O. nerka* in Alaska.

89-002168 Shpigel, Muki and Lev Fishelson. FOOD HABITS AND PREY SELECTION OF THREE SPECIES OF GROUPERS FROM THE GENUS *CEPHALOPHOLIS* (SERRANIDAE, TELEOSTEI). *Environ. Biol. Fishes* 24(1):67-73. 1989. FR 34(2)

[Israel Natl. Cent. Maricult., Oceanogr. & Limnol. Res. Ltd., P.O. Box 1212, El Ezer, Israel] *C. argus*, *C. miniata*, and *C. hemistiktos*.

89-002169 Stebbins, Timothy D. THE ROLE OF SEA URCHINS IN MEDIATING PREDATION ON A COMMENSAL ISOPOD (CRUSTACEA: ISOPODA). *J. Exp. Mar. Biol. Ecol.* 124(2):97-113. 1988. FR 34(2)

[Invert. Zool. Sect., Nat. Hist. Mus. Los Angeles Cty., Los Angeles, CA 90007]

89-002171 Tweddle, D. PIED KINGFISHER SWALLOWS PREY ON THE W
12(1/2):81-82. 1988. FR 34(2)
[P.O. Box 27, Monkey Bay, Malawi]

89-002172 Wetterer, James Kelly. SIZE-SELECTIVE FORAGING BY LEAF-CUT
AND PLANKTIVOROUS FISH. Ph.D. dissertation, Univ. Wash. 1988. From Diss.
B Sci. Eng. 49(9) 3631. 1989. FR 34(2)
Gasterosteus aculeatus, *Lepomis macrochirus*, and *Perca flavescens*.

AGE AND GROWTH

89-002173 Aguayo H., Mario; Raul Gili V and Vicente Erbs G [STUDY OF
GROWTH ON CHILEAN PILCHARD (*SARDINOPS SAGAX*) FROM NORTHERN CHIL
Pesq. 34:85-98. 1987. In Spanish with English summ. FR 34(2)
[Inst. Fomento Pesquero, Casilla 1287, Santiago, Chile]

89-002174 Aguayo H., Mario and Vilma Ojeda C. [STUDY OF AGE AND GROWTH
(*MERLUCCIIUS GAYI* GAYI GUICHENOT, 1848) (GADIFORMES - MERLUCCIIIDA
Pesq. 34:99-112. 1987. In Spanish with English summ. FR 34(2)
[Inst. Fomento Pesquero, Casilla 1287, Santiago, Chile]

89-002175 Arkhipkin, A. I. [A COMPARATIVE ANALYSIS OF SUBANNUAL GRO
IN SQUID STATOLITH AND FISH OTOLITH.] *Biol. Nauki (Moscow)* 299(11):5-
Russian with English summ. FR 34(2)

89-002176 Atkinson, D. B. WEIGHT-LENGTH RELATIONSHIPS OF
GRENADIER (*CORYPHAENOIDES RUPESTRIS* GUNN.) IN DIFFERENT AREA
NORTH ATLANTIC. *Fish. Res.* 7(1-2):65-72. 1989. FR 34(2)
[Sci. Branch, Dep. Fish. & Oceans, P.O. Box 5667, St. John's, NF, Canada A

89-002177 Barbour, S. E. and S. M. Einarsson. AGEING AND GROWTH
SALVELINUS ALPINUS (L.), FROM THREE HABITAT TYPES IN SCOTLAND
Fish. Manage. 18(1):63-72. 1987. FR 34(2)
[Fish. & Oceans Canada, Fish Habitat Protection Sect., P.O. Box 550,
Canada B3J 2S7]

89-002178 Boisclair, D. and W. C. Leggett. AMONG-POPULATION VARIABILITY
GROWTH: I. INFLUENCE OF THE QUANTITY OF FOOD CONSUMED. *Can. J. F
Sci.* 46(3):457-467. 1989. In English with French summ. FR 34(2)
[Salmon Div., Canada Dep. Fish. & Oceans, Pac. Biol. Stn., Nanaimo, BC,
5K6] *Perca flavescens* in Quebec.

89-002179 Davies, N. M.; R. W. Gauldie; S. A. Crane and R. K. Thompson
ULTRASTRUCTURE OF SMOOTH OREO, *PSEUDOCYTTUS MACULATUS*, AND B
ALLOCYTTUS SP., SPECIES. U.S. Natl. Mar. Fish Serv. Fish. Bull.

89-002181 Hubert, Wayne A. ALTITUDE AS THE DETERMINANT OF DISTRIBUTION OF LARGEMOUTH BASS AND SMALLMOUTH BASS IN WYOMING. *N. Am. J. Fish. Manage.* 8(3):386-387. 1988. FR 34(2)

[U.S. Fish & Wildl. Serv., Coop. Fish. & Wildl. Res. Unit, Univ. Wyo., Laramie 82071]
Micropterus salmoides and *M. dolomieu*.

89-002182 Kosco, Jan. [AGE AND GROWTH OF *RHODEUS SERICEUS AMARUS* (BLOCH 1783) IN IRRIGATION CANALS OF THE ONDAVA RIVER BASIN AT HRAN.] *Biolog. (Bratisl.)* 43(10):927-934. 1988. In Czech with English and Russian summ. FR 34(2)

[Pobocka Cent. Biol.-Ekol. vied SAV pre Ekol. Polnohospodarskej Krajiny, Kukorelliho 10040 00 Kosice, Czechoslovakia]

89-002183 Modde, Timothy and Charles G. Scatet. LATITUDINAL INFLUENCES UPON LARGEMOUTH BASS AND BLUEGILL INTERACTIONS IN SMALL IMPOUNDMENTS. In: *Fish Culture In Fisheries Management*. Richard Stroud, editor, p. 201-207. 1986. FR 34(2)

[Dep. Wildl. & Fish., S.D. State Univ., Brookings 57007] *Micropterus salmoides* and *Lepomis macrochirus*.

89-002184 Penaz, Milan; Evzen Wohlgenuth; Ilona Stouracova and Miroslav Prokes. INFLUENCE OF WATER TEMPERATURE UPON THE GROWTH AND MORTALITY RATES OF GLASS EELS, *ANGUILLA ANGUILLA* USING WATER RECIRCULATION. *Folia Zool.* 37(3):263-272. 1988. In English with Russian summ. FR 34(2)

[Inst. Syst. & Ecol. Biol., CSAV, Kvetna 8, 603 65 Brno, Czechoslovakia]

89-002185 Piironen, Jorma and Ismo J. Holopainen. LENGTH STRUCTURE AND REPRODUCTIVE POTENTIAL OF CRUCIAN CARP (*CARASSIUS CARASSIUS* (L.)) POPULATIONS IN SOME SMALL FOREST PONDS. *Ann. Zool. Fenn.* 25(3):203-208. 1988. FR 34(2)

[Dep. Biol., Univ. Joensuu, Box 111, SF-80101 Joensuu, Finland]

89-002186 Pikitch, Ellen K. and Robert L. Demory. ASSESSMENT OF SCALES AS A MEAN OF AGING DOVER SOLE. *Trans. Am. Fish. Soc.* 117(4):345-349. 1988. FR 34(2)

[Fish. Res. Inst., WH-10, Univ. Wash., Seattle 98195] *Microstomus pacificus* in Oregon.

89-002187 Vondracek, Bruce; Joseph J. Cech, Jr. and Randal K. Buddington. GROWTH, GROWTH EFFICIENCY, AND ASSIMILATION EFFICIENCY OF THE TAHOE SUCKER IN CYCLIC AND CONSTANT TEMPERATURE. *Environ. Biol. Fishes* 24(2):151-156. 1989. FR 34(2)

[Dep. Wildl. & Fish. Biol., Univ. Calif., Davis 95616] *Catostomus tahoensis*.

89-002185 Acetronura (AMPHELIKURUS) DENDRITICA (SYNGNATHIDAE) FROM THE CARIBBEAN Northeast Gulf Sci. 10(1):61-62. 1988. FR 34(2)
[Vice Colombia, Apdo. 1016, Santa Marta, Colombia]

89-002190 Alvarez, J. Javier and I. Doadrio [ON THE PRESENCE OF LAMPETRA P. BLOCH, 1784 IN SPAIN.] Donana Acta Vertebr. 13:158-160. 1986. In Spanish. FR 34(2)
[Ruiz Alca, 2-3 ° B, 31004-Pamplona, Spain]

89-002191 Berg, Ole Kristian and Magnus Berg. THE DURATION OF SE FRESHWATER RESIDENCE OF THE SEA TROUT, SALMO TRUTTA, FROM THE V. RIVER IN NORTHERN NORWAY Environ. Biol. Fishes 24(1):25-32. 1989. FR 34(2)
[Dep. Zool., Univ. Trondheim, N-7055 Dragvoll, Norway]

89-002192 Binet, Denis. [THE PROBABLE CHANGES IN THE PATTERN OF SARDIN SARDINELLE DISTRIBUTION ALONG THE WEST AFRICAN COAST, CAUSED INTENSIFICATION OF THE TRADE WINDS] Aquat. Living Resour. 1(2):115-132. French with English summ. FR 34(2)
[Antenne ORSTOM, Cent. IFREMER, BP 1049, 44037 Nantes Cedex 01, France]
pilchardus, Sardinella aurita, and S. maderensis.

89-002193 Boehlert, G. W. and Amatzia Genin. A REVIEW OF THE EFFECT SEAMOUNTS ON BIOLOGICAL PROCESSES. Geophys. Monogr. Am. Geophys. Un. p. 319-334. 1987. From Deep-Sea Res. Part B Oceanogr. Lit. Rev. 35(12):88-7128. 1 34(2)
[SWFC, NMFS, NOAA, 2570 Dole St. Honolulu, HI 96822-2396]

89-002194 Cochran, Philip A. and Timothy C. Pettinelli. NORTHERN AND SOUT BROOK LAMPREYS (ICHTHYOMYXON FOSSOR AND I. GAGEI) IN MINNESOTA. J. Acad. Sci. 54(1):23-27. 1988. FR 34(2)

89-002195 Collins, Mark R. and Charles A. Wenner. OCCURRENCE OF YOUNG-C YEAR KING, SCOMBEROMORUS CAVALLA, AND SPANISH, S. MACULATUS, MACKE COMMERCIAL-TYPE SHRIMP TRAWLS ALONG THE ATLANTIC COAST OF THE SOUT UNITED STATES. U.S. Natl. Mar. Fish. Serv. Fish. Bull. 86(2):394-397. 1988. FR 34(2)
[Mar. Resour. Res. Inst., Wildl. & Mar. Resour. Dep., P.O. Box 12559, Charleston 29412]

89-002196 Contreras-Balderas, Salvador. [THREATENED AND ENDANGERED FISH IN MEXICO] Proc. Desert Fishes Council. 16:59-65. 1987. In Spanish. FR 34(2)
[Escuela Graduados, Fac. Cienc. Biol., UNAM, Monterrey, Mexico]

89-002199 de Sostoa, A.; J. Lobon-Cervia; V. Fernandez-Colome and F. J. de Sostoa. DISTRIBUTION OF THE SUNFISH *LEPOMIS CIBBOSUS* IN THE IBERIAN PENINSULA. *Donana Acto Vertebr.* 14:121-123. 1987. In Spanish. FR 34(2)
[Dep. Zool., Fac. Biol., Univ. Barcelona, Diagonal 635, 08028 Barcelona, Spain]

89-002200 Deacon, James E. POPULATION CHANGES IN DEVIL'S HOLE PUFFISH POPULATIONS 1972-1984. *Proc. Desert Fishes Council*, 17:103-104. 1987. English and Spanish abstract only. FR 34(2)
[Dep. Biol. Sci., Univ. Nev., Las Vegas, 89154] *Cyprinodon diabolis* in Nevada.

89-002201 DeGraaf, Dirk A. FIRST CANADIAN RECORD OF BERING CISCO (*COREGONUS LAURETTAE*) FROM THE YUKON RIVER AT DAWSON, YUKON TERRITORY. *Can. Field-Nat.* 95(3):365. 1981. FR 34(2)
[LGL Ltd., Environ. Res. Assoc., P.O. Box 13248, Stn. A, St. John's, NF, Canada A1B 4A5]

89-002202 Dennis, George D. and Thomas J. Bright. NEW RECORDS OF FISHES IN THE NORTHWESTERN GULF OF MEXICO, WITH NOTES ON SOME RARE SPECIES. *Northeast Gulf Sci.* 10(1):1-18. 1988. FR 34(2)
[Dep. Mar. Sci., Univ. Puerto Rico, Mayaguez 00709-5000] Data for 21 species.

89-002203 Diaz-Pardo, E. and Carlos Chavez-Toledo. [RESULTS OF A PRELIMINARY STUDY ON THE ICTHYOFAUNA OF THE LERMA-CHAPALA BASIN, MEXICO.] *Proc. Desert Fishes Council*, 17:126-140. 1987. In Spanish. FR 34(2)
[Lab. Cordados, Dep. Zool., Escuela Nac. Cienc. Biol., I.P.N., Mexico]

89-002204 Doadrio, I. and P. Garzon. [ON THE DISTRIBUTION OF *BARBUS HAASI*.] *Donana Acto Vertebr.* 14:123-125. 1987. In Spanish. FR 34(2)
[Mus. Nac. Cienc. Nat., Jose Gutierrez Abascal 2, 28006 Madrid, Spain]

89-002205 Doadrio, I. and P. Garzon. [FIRST RECORDS OF *BARBUS MICROCEPHALUS* ALMACA, 1967 (OSTARIOPHYSI, CYPRINIDAE) IN SPAIN.] *Donana Acta Vertebr.* 13:157-158. 1986. In Spanish. FR 34(2)
[Mus. Nac. Cienc. Nat., Jose Gutierrez Abascal 2, 28006-Madrid, Spain]

89-002206 Doadrio, I. and B. Elvira. [NEW LOCALITIES OF *CHONDROSTOMA POLYLEPIS* STEINDACHNER, 1865 (OSTARIOPHYSI, CYPRINIDAE) IN SPAIN.] *Donana Acta Vertebr.* 13:163-165. 1986. In Spanish. FR 34(2)
[Mus. Nac. Cienc. Nat., Jose Gutierrez Abascal 2, 28006-Madrid, Spain] *C. p. polylepis* and *C. p. willkommii*.

- 89-002203 Gerstung, Eric R. STATUS, LIFE HISTORY, AND MANAGEMENT OF THE LAHONTAN CUTTHROAT TROUT. *Am. Fish. Soc. Symp.* 4:93-106. 1988. FR 34(2)
[Inland Fish. Div., Dep. Fish & Game, 1416 Ninth St., Sacramento, CA 95833]
Oncorhynchus clarki henshawi in California and Nevada.
- 89-002210 Golani, D. CAN SUCCESSFUL COLONIZERS INTO THE MEDITERRANEAN SEA BE PREDICTED AMONG RED SEA FISHES? *Isr. J. Zool.* 35(1/2):89. 1988/89. Abstract only. FR 34(2)
[Dep. Zool., Hebrew Univ., 91904 Jerusalem, Israel]
- 89-002211 Harbicht, S. M., W. G. Franzin and K. W. Stewart. NEW DISTRIBUTION RECORDS FOR THE MINNOWS *HYBOGNATHUS HANKINSONI*, *PHOXINUS EOS*, AND *NEOGAEUS* IN MANITOBA. *Can. Field-Nat.* 102(3):475-484. 1988. FR 34(2)
[Dep. Fish. Oceans, Freshwater Inst., 501 University Crescent, Winnipeg, MB, Canada R3T 2N6]
- 89-002212 Jha, D. K. and T. K. Shrestha. FISH FAUNA OF KARNALI RIVER. *J. Agric. Anim. Sci.* 7:51-61. 1986. FR 34(2)
[Shrestha: Inst. Agric. & Anim. Sci., Rampur, Chitwan, Nepal & Tribhuvan Univ., Kathmandu, Nepal]
- 89-002213 Lanteigne, J.; J. M. Hanson and S. U. Qadri. OCCURRENCE AND GROWTH PATTERNS OF THE AMERICAN BROOK LAMPREY, *LETHENTERON LAMOTTENII*, IN THE OTTAWA RIVER. *Can. Field-Nat.* 95(3):261-265. 1981. FR 34(2)
[Dep. Biol., Univ. Ottawa, Ottawa, ON, Canada K1N 6N5]
- 89-002214 Lloris, Domingo; Jaime A. Rucabado and Joao A. Gomes. LESUERGOS SANZOL (DE BUEN, 1918), (OSTEICHTHYES, GOBIIDAE), IN THE SOUTH-EASTERN ATLANTIC (NAMIBIA). *Rev. Cienc. Mar Thalassas* 2(1):93-97. 1984. In English with Spanish summ. FR 34(2)
[Inst. Invest. Pesq. Barcelona, Paseo Nac., s/n-08003-Barcelona-3, Spain]
- 89-002215 Matallanas, Jesus. [MARINE FISHES OFF GUINEA-BISSAU (NW AFRICA) CAPTURED BY THE TRAWLER "LULU". ZOOGEOGRAPHICAL ANALYSIS.] *Rev. Cienc. Mar Thalassas* 5(1):115-124. 1987. In Spanish with English summ. FR 34(2)
[Dep. Zool., Fac. Cienc., Univ. Autonoma Barcelona, Bellaterra, Barcelona, Spain]
- 89-002216 Mayden, Richard L. BIOGEOGRAPHY OF OUACHITA HIGHLAND FISHES. *Southwest. Nat.* 30(2):195-211. 1985. FR 34(2)
[Mus. Nat. Hist., Univ. Kans., Lawrence 66045]
- 89-002217 McAda, Charles W. STATUS OF THE RAZORBACK SUCKER *XYRAUCIUS TEXANUS* IN THE COLORADO RIVER UPSTREAM FROM LAKE POWELL. *Proc. Desert Fish. Counc.* 17:185. 1987. Abstract only. FR 34(2)

89-002219 Pedretti, John W.; Thomas M. Baugh and James E. Deacon. STATUS OF NATIVE FISHES IN BIG SMOKY VALLEY, NEVADA. *Proc. Desert Fishes Council*. 17:143. 1987. English and Spanish abstract only. FR 34(2)
[Dep. Biol. Sci., Univ. Nev., Las Vegas 89154]

89-002220 Pedretti, John W. and Lisa G. Heki. STATUS AND DISTRIBUTION OF THE TIGER CHUB (*GILA BICOLOR*) IN FISH LAKE VALLEY, ESMERALDA COUNTY, NEVADA. *Proc. Desert Fishes Council*. 18:200. 1987. Abstract only. FR 34(2)

89-002221 Propst, David L. and Kevin R. Bestgen. DISTRIBUTION AND STATUS OF THE LOACH MINNOW, *TIAROGA COBITIS*, IN NEW MEXICO. *Proc. Desert Fishes Council*. 17:16. Abstract only. FR 34(2)
[Bestgen: Univ. N.M. Albuquerque 87131]

89-002222 Rauchenberger, Mary. HISTORICAL BIOGEOGRAPHY OF POECILIID FISHES OF THE CARIBBEAN. *Syst. Zool.* 37(4):356-365. 1988. FR 34(2)
[Div. Fishes, Smithsonian Inst., Washington, DC 20560] *Atractosteus* spp., *Ophisternon* spp., *Cichlasoma* spp., *Cyprinodon* spp., *Cubanichthys* spp., *Rivulus* spp., *Poecilia* spp., *Gambusia nicoraguensis*, *G. puncticulata*, and *G. punctata*.

89-002223 Reddin, D. G.; D. E. Stansbury and P. B. Short. CONTINENT OF ORIGIN OF ATLANTIC SALMON (*SALMO SALAR* L.) AT WEST GREENLAND. *J. Cons. Cons. Int. Explor. Mer* 44(2):180-188. 1988. In English with French summ. FR 34(2)
[Sci. Branch, Dep. Fish. & Oceans, P.O. Box 5667, St. John's, NF, Canada A1C 5X1]

89-002224 Ruiz-Campos, Gorgonio and Salvador Contreras-Balderas. [ICHTHYOFAUNA OF THE RIO ALAMO, RIO GRANDE SUB-BASIN, MEXICO.] *Proc. Desert Fishes Council*. 16:1-35. 1987. In Spanish with English summ. FR 34(2)
[Lab. Vertebr., Escuela Superior Cienc. Biol., UABC, A.P. 1880, Ensenada, B.C. 22800, Mexico]

89-002225 Ruiz-Campos, Gorgonio and Salvador Contreras-Balderas. ECOLOGICAL AND ZOOGEOGRAPHICAL CHECK-LIST OF THE CONTINENTAL FISHES OF THE BAY OF CALIFORNIA PENINSULA, MEXICO. *Proc. Desert Fishes Council*. 17:105-117. 1987. FR 34(2)
[Escuela Cienc. Biol., UABC, Apdo. Postal 1880, Ensenada, B.C., Mexico]

89-002226 Springer, Victor G. THE INDO-PACIFIC BLENNIID FISH GENUS *ECSENIUS*. *Smithson. Contrib. Zool.* No. 465. 150p. 1988. FR 34(2)
[Div. Fishes, Dep. Vertebr. Zool., Mus. Nat. Hist., Smithsonian Inst., Washington, DC 20560]

GEOGRAPHICAL DISTRIBUTION, FISH SURVEYS, ETC. (CONTINUED)

- 89-002227 Tilak, Raj. GAME FISHES WITH NOTES ON ANGLING AND RELATED ASPECTS. In: *Wildlife Wealth of India (Resources & Management)*. T.C. Majumuria, editor. p. 147-161. 1986. FR 34(2)
[Zool. Surv. India, Dehradun, U.P., India]
- 89-002228 Tyus, Harold M. STATUS OF THE RAZORBACK SUCKER IN THE GREEN RIVER UTAH. *Proc. Desert Fishes Council*. 17:184. 1987. Abstract only. FR 34(2)
[U.S. Fish & Wildl. Serv.-CRFP, 1680 W. Hwy. 40, Rm. 1210, Vernal, UT 84078]
Xyrauchen texanus.
- 89-002229 Ulloa Rojas, Juan; Oliver Alpirez Quesada and Jorge Cabrera Pena. OCCURRENCE OF *BRYCONAMERICUS SCLEROPARIUS*, *POECILIOPSIS TURRUBARENSE*, AND *CICHLASOMA NICARANGUENSE* IN THE ARENAL RESERVOIR, COSTA RICA. *Rev. Biol. Trop.* 36(1):171-172. 1988. In Spanish. FR 34(2)
[Escuela Cienc. Biol., Univ. Nac., 3000 Heredia, Costa Rica]
- 89-002230 Wetherbee, David Kenneth. THE ARTIBONITO-MASSACRE FAUNAL CORRIDOR IN REPUBLICA DOMINICANA. *Caribb. J. Sci.* 24(1-2):23-27. 1988. FR 34(2)
[Apdo. Postal No. 5, Monte Cristi, Dominican Republic] *Poecilia dominicensis*, *Rivulus marmoratus*, and *Gobiasoma dormitor*.
- 89-002231 Wiederholm, Anne-Marie. DISTRIBUTION OF *POMATOSCHISTUS MINUTUS* AND *P. MICRIPS* (GOBIIDAE, PISCES) IN THE BOTHNIAN SEA: IMPORTANCE OF SALINITY AND TEMPERATURE. *Mem. Soc. Fauna Flora Fenn.* 63(2):56-62. 1987. FR 34(2)
[Dep. Zool., Uppsala Univ., Box 561, S-751 22 Uppsala, Sweden]
- 89-002232 Wilson, R. R., Jr. and R. S. Kaufmann. SEAMOUNT BIOTA AND BIOGEOGRAPHY. *Geophys. Monogr. Am. Geophys. Un.* No. 43, p. 355-378. 1987. From Deep-Sea Res. Part B Oceanogr. Lit. Rev. 35(12):88:7019. 1988. FR 34(2)
[Mar. Sci. Dep., Univ. S. Fla., 140 Seventh Ave. S., St. Petersburg 33701]
- 89-002233 Yazdani, G. M. FRESH WATER FISHES. In: *Wildlife Wealth of India (Resources & Management)*. T. C. Majumuria, editor. p. 117-146. 1986. FR 34(2)
[Zool. Surv. India, Patna, Bihar, India]
- ABUNDANCE, FACTORS OF; SURVIVAL AND MORTALITY
- 89-002234 del P. Frias, Ma. [LARVAL DISTRIBUTION OF THE RED GROUPER, *EPINEPHALUS MORIO* (VALENCIENNES, 1928) (PISCES, SERRANIDAE) IN THE GULF OF MEXICO.] *Rev. Cubana Invest. Pesq.* 7(4):26-39. 1982. In Spanish with English summ. FR 34(2)
- 89-002235 Heggenes, J. and R. Borgstrom. EFFECT OF MINK, *MUSTELA VISON* SCHREBER, PREDATION ON COHORTS OF JUVENILE ATLANTIC SALMON, *SALMO SALAR* L., AND BROWN TROUT, *S. TRUTTA* L., IN THREE SMALL STREAMS. *J. Fish Biol.* 33(6):885-894. 1988. FR 34(2)
[Dep. Nat. Geogr.]

89-(K)2237 Pasch, R. W. JOHN SEVIER AQUATIC BIOLOGICAL PROGRAM: PADDLE-FISH STOCKING AND ASSESSMENT REPORT FOR 1986. *Tenn. Valley Authority TVA/PUB-87/56p.* 1986. From U.S. Government Reports 87(13):18. 1987. Available from NTIS as DE7900330/GAR. FR 34(2)

Polyodon spathula in Tennessee.

89-002238 Sanders, L. G. and J. A. Baker. INVESTIGATION OF THE FISHERIES OF AFRICA, BUCK, AND JUDD LAKES, LOUISIANA. *U.S. Army Eng. Waterways Exp. Stn. Rep.* WES/MP/EL-87-10. 26p. 1987. From U.S. Government Reports 88(11):19-20. 1988. Available from NTIS as AD-A188 978/1/GAR. FR 34(2)

Dorosoma cepedianum, *D. petenense*, and *Pomoxis annularis*.

89-002239 Zuckerman, Laurence D. and Robert J. Behnke. UPDATE OF UPPER RIO GRANDE FISH FAUNA, COLORADO. *Proc. Desert Fishes Council*, 16:36. 1987. Abstract only. FR 34(2)

[Dep. Fish. & Wildl. Biol., Colo. State Univ., Fort Collins 80523] *Catostomus plebeius*, *C. commersoni*, *Gila pondora*, and *Oncorhynchus clarki virginalis*.

IDENTIFICATION, KEYS, CLASSIFICATION

89-002240 Allen, G. R. and A. M. Ayling. NEW AUSTRALIAN FISHES. PART 5. A NEW SPECIES OF *ACANTHURUS* (ACANTHURIDAE). *Mem. Mus. Vic.* 48(1):15-16. 1987. FR 34(2)

[Dep. Ichthyol., West. Australian Mus., Francis St., Perth, W.A. 6000, Australia] *A. albipectoralis*.

89-002241 Allen, G. R. NEW AUSTRALIAN FISHES. PART 2. FOUR NEW SPECIES OF APOGONIDAE. *Mem. Mus. Vic.* 48(1):3-8. 1987. FR 34(2)

[Dep. Ichthyol., West. Australian Mus., Francis St., Perth, W.A. 6000, Australia] *Apogon pallidofasciatus*, *Rhabdamia eremla*, *Vincentia badia*, and *V. macrocauda*.

89-002242 Allen, G. R. NEW AUSTRALIAN FISHES. PART 3. A NEW SPECIES OF *POMACENTRUS* (POMACENTRIDAE). *Mem. Mus. Vic.* 48(1):9-11. 1987. FR 34(2)

[Dep. Ichthyol., West. Australian Mus., Francis St., Perth, W.A. 6000, Australia] *P. aeneus*.

89-002243 Allen, G. R. NEW AUSTRALIAN FISHES. PART 4. A NEW SPECIES OF *STEENEICHTHYS* (PLESIOPIIDAE). *Mem. Mus. Vic.* 48(1):13-14. 1987. FR 34(2)

[Dep. Ichthyol., West. Australian Mus., Francis St., Perth, W.A. 6000, Australia] *S. nativitatis* in Christmas Island.

IDENTIFICATION, KEYS, CLASSIFICATION (CONTINUED)

- 89-002244 Behnke, Robert J. DESCRIPTIONS OF SUBSPECIES OF CUTTHROAT TROUT FROM THE ALVORD AND WHITEHORSE BASINS, OREGON-NEVADA. *Proc. Desert Fish Counc.* 16:40. 1987. Abstract only. FR 34(2)
[Dep. Fish. & Wildl. Biol., Colo. State Univ., Fort Collins 80523] *Oncorhynchus clarkii*.
- 89-002245 Behnke, Robert J. PHYLOGENY AND CLASSIFICATION OF CUTTHROAT TROUT. *Am. Fish. Soc. Symp.* 4:1-7. 1988. FR 34(2)
[Dep. Fish. & Wildl. Biol., Colo. State Univ., Fort Collins 80523] *Oncorhynchus clarkii*.
- 89-002246 Ben-Tuvia, Adam and George Wm. Kissil. FISHES OF THE FAMILY MULLIDAE IN THE RED SEA, WITH A KEY TO THE SPECIES IN THE RED SEA AND THE EASTERN MEDITERRANEAN. *Ichthyol. Bull. J.L.B. Smith Inst. Ichthyol.* No. 52. 16p. 1988. FR 34(2)
[Dep. Zool., Hebrew Univ., Jerusalem, Israel]
- 89-002247 Bleher, Heiko. INDIA, PART III: THE ASSAM STRUGGLE. *Trop. Fish Hobbyist* 37(2):38-43, 46-48, 51-53, 56-62, 64-65. 1988. FR 34(2)
- 89-002248 Bussing, William A. A NEW FISH, *BRACHYRHAPHIS ROSENI* (POECILIIDAE) FROM COSTA RICA AND PANAMA. *Rev. Biol. Trop.* 36(1):81-87. 1988. In English with Spanish summ. FR 34(2)
[Escuela Biol. & Cent. Invest. Cienc. Mar & Limnol. (CIMAR), Univ. Costa Rica, San Jose, Costa Rica]
- 89-002249 Catony, Leonardo Depestre and Eladio Blanco Cabrera. [MULTILINGUAL DICTIONARY OF MARINE SPECIES (SPANISH, ENGLISH, FRENCH, GERMAN, PORTUGUESE).] *Editorial Científico-Técnica (Habana)* 82p. 1987. Available from Minist. Cult., Edit. Cient.-Técnica, Calle 2 No. 58, entre 3ra & 5ta., Havana, Cuba. FR 34(2)
- 89-002250 Chadderton, W. L. FAUNAL AND CHEMICAL CHARACTERISTICS OF SOME STEWART ISLAND STREAMS. *N.Z. Not. Sci.* 15:43-50. 1988. FR 34(2)
[Dep. Zool., Univ. Canterbury, Christchurch 1, New Zealand] *Retropinna retropinna*, *Galaxias fasciatus*, *G. brevipinnis*, *G. maculatus*, *G. argenteus*, *Gobiomorphus huttoni*, *Anguilla* spp. and *Geotria australis*.
- 89-002251 Chu Xinluo. [AN INTRODUCTION TO "SYSTEMATIC SYNOPSIS OF CHINESE FISHES".] *Zool. Res.* 8(4):364. 1987. In Chinese. FR 34(2)
[Kumming Inst. Zool., Acad. Sinica, China]
- 89-002252 Fernandez-Delgado, Carlos; Jose A. Hernando; Mercedes Herrera and Manuel Bellido. [ON THE TAXONOMIC STATUS OF GENUS *VALENCIA* MYERS, 1928 IN THE SOUTHWEST OF IBERIA.] *Donana Acta Vertebr.* 13:161-163. 1986. In Spanish. FR 34(2)
[Dep. Zool., Fac. Cienc., Univ. Cordoba, Avda. San Alberto Magno s/n., 14004-Cordoba, Spain] *V. lozanoi*.
- 89-002253 Fernandez, Justa M. and Stanley H. Weitzman. A NEW SPECIES OF *NANNOSTOMUS* (TELEOSTEI: LEBIASINIDAE) FROM NEAR PUERTO AYACUCHO, RIO ORINOCO DRAINAGE, VENEZUELA. *Proc. Biol. Sci.*

89-002255 Ferraris, Carl J., Jr. and Justa Fernandez. *TRACHELYOPTERICHTHYS ANOZEI*, A NEW SPECIES OF AUCHENIPTERID CATFISH FROM THE UPPER RIO ORINOCO OF VENEZUELA WITH NOTES ON *T. TAENIATUS* (KNER). *Proc. Biol. Soc. Wash.* 100(2):257-261. 1987. FR 34(2)

[Dep. Ichthyol., Am. Mus. Nat. Hist., New York, NY 10031]

89-002256 Gomon, M. F. and G. R. Allen. NEW AUSTRALIAN FISHES. PART 7. A NEW SPECIES OF *CHOERODON* (LABRIDAE). *Mem. Mus. Vic.* 48(1):25-26. 1987. FR 34(2)

[Dep. Ichthyol., Mus. Victoria, 328 Swanston St., Melbourne, Vic. 3000, Australia] *couteroma*.

89-002257 Gomon, M. F. and P. R. Last. NEW AUSTRALIAN FISHES. PART 9. A NEW SPECIES OF *KATHETOSTOMA* (URANOSCOPIDAE). *Mem. Mus. Vic.* 48(1):31-33. 1987. FR 34(2)

[Dep. Ichthyol., Mus. Victoria, 328 Swanston St., Melbourne, Vic. 3000, Australia] *canaster*.

89-002258 Gomon, M. F. and R. H. Kuiter. NEW AUSTRALIAN FISHES. PART 8. A NEW SPECIES OF *AULOTRACHICHTHYS* (TRACHICHTHYIDAE). *Mem. Mus. Vic.* 48(1):27-29. 1987. FR 34(2)

[Dep. Ichthyol., Mus. Victoria, 328 Swanston St., Melbourne, Vic. 3000, Australia] *pulsator*.

89-002259 Gomon, M. F. and P. R. Last. NEW AUSTRALIAN FISHES. PART 10. INTRODUCTION. *Mem. Mus. Vic.* 48(1):1-2. 1987. FR 34(2)

[Dep. Ichthyol., Mus. Victoria, 328 Swanston St., Melbourne, Vic. 3000, Australia]

89-002260 Gomon, M. F. NEW AUSTRALIAN FISHES. PART 6. NEW SPECIES OF *LEPIDOTRIGLA* (TRIGLIDAE), *CHOERODON* (LABRIDAE) AND *ZEBRIAS* (SOLEIDAE). *Mem. Mus. Vic.* 48(1):17-23. 1987. FR 34(2)

[Dep. Ichthyol., Mus. Victoria, 328 Swanston St., Melbourne, Vic. 3000, Australia] *spinosa*, *C. sugillatum*, and *Z. penescalaris*.

89-002261 Hardy, Graham S. A REVISION OF *BOVICHTHUS* CUVIER, 1831 (PISCES: BOVICHTHYIDAE) FROM AUSTRALASIA, WITH DESCRIPTION OF A NEW DEEPWATER SPECIES FROM THE NEW ZEALAND SUBANTARCTIC. *J. Nat. Hist.* 22(6):1639-1655. 1988. FR 34(2)

[Natl. Mus. New Zealand, P.O. Box 467, Wellington, New Zealand] *B. oculus*.

1567. FR 34(2)
[Australian Mus., P.O. Box A285, Sydney S., N.S.W. 2030, Australia] *Kimberleyichthys hutchinsi* and *K. notata*.

89-002263 Hoese, Douglass F. and Helen K. Larson. NEW AUSTRALIAN FISHES. A NEW GENUS AND SPECIES OF ELEUTRIDID (GOBIOIDEI) FROM SOUTHERN AUSTRALIA WITH A DISCUSSION OF RELATIONSHIPS. *Mem. Mus. Vic.* 48(1):43-50. 1987. FR 34(2)
[Australian Mus., P.O. Box A285, Sydney S., N.S.W. 2030, Australia] *Troglodactylus adelaidae*.

89-002264 Hutchins, J. B. NEW AUSTRALIAN FISHES. PART 12. A NEW GENUS AND SPECIES OF EUBALICHTHYS (MONACANTHIDAE). *Mem. Mus. Vic.* 48(1):51-52. 1987. FR 34(2)
[Dep. Ichthyol., West. Australian Mus., Francis St., Perth, W.A. 6001] *Eubalichthys cyanoura*.

89-002265 Joseph, James; Witold Klawe and Pat Murphy. TUNA AND BILLFISH WITHOUT A COUNTRY. *Inter-Am. Trop. Tuna Comm.* 69p. 1988. Available from the Tuna & Billfish Book, P.O. Box 271, La Jolla, CA 92038. FR 34(2)

89-002266 Kendall, Robert L. TAXONOMIC CHANGES IN NORTH AMERICAN SALMONID NAMES. *Trans. Am. Fish. Soc.* 117(4):321. 1988. FR 34(2)
Oncorhynchus and *Salmo* spp.

89-002267 Knapp, Leslie W. NEW AUSTRALIAN FISHES. PART 13. TWO NEW SPECIES OF PLATYCEPHALIDAE. *Mem. Mus. Vic.* 48(1):53-55. 1987. FR 34(2)
[Smithsonian Oceanogr. Sorting Cent., Natl. Mus. Nat. Hist., Smithsonian Institution, Washington, DC 20560] *Platycephalus aurimaculatus* and *Rogadius patriciae*.

89-002268 Knapp, Leslie W. and Thosaporn Wongratana. SORSOGONA MELANESIA: A NEW FLATHEAD FISH FROM THE NORTHERN INDIAN OCEAN (PLATYCEPHALIDAE). *Proc. Biol. Soc. Wash.* 100(2):381-385. 1987. FR 34(2)
[Oceanogr. Sorting Cent., Natl. Mus. Nat. Hist., Smithsonian Institution, Washington, DC 20560]

89-002269 Kottelat, Maurice and Chu Xintuo. THE BOTIINE LOACHES (OSTEOGASTERIDAE) OF THE LANCANGJIANG (UPPER MEGONG) WITH DESCRIPTIONS OF NEW SPECIES. *Zool. Res.* 8(4):393-400. 1987. In English with Chinese summ. FR 34(2)
[Lab. Ichthyol., Gueret 5. 2800 Delemont, Switzerland] *Botia rostrata*, *B. superciliosa*, and *B. nigrolineata*.

89-002270 Kramer, D. E. and V. M. O'Connell. GUIDE TO NORTHEASTERN ROCKFISHES, GENERA *SEBASTES* AND *SEBASTOLOBUS*. *Mar. Advis. Bull.* 198. From U.S. Government Reports 87(24):19. 1987. Available from NTIS as PB87-24198. FR 34(2)

89-002271 Kullander, Sven O. *BIOTOECUS* EIGENMANN AND KENNEDY (CICHLIDAE): DESCRIPTION OF A NEW SPECIES FROM THE ORINOCO BASIN AND A GENERIC DIAGNOSIS. *J. Nat. Hist.* 23(1):225-260. 1989.

[CSIRO Div. Fish. Res., GPO Box 1538, Hobart, Tasm. 7001, Australia] 7: 60-61
personata, *U. flavomosaicus*, *U. orarius*, and *U. westraliensis*.

89-002273 Last, P. R. and G. J. Edgar. NEW AUSTRALIAN FISHES. PART 16. SPECIES OF *CRAPATALUS* (LEPTOSCOPIDAE). *Mem. Mus. Vic.* 48(1):73-74. 1987. FR 34(2)
[CSIRO Div. Fish. Res., GPO Box 1538, Hobart, Tasm. 7001, Australia] *C. munroi*.

89-002274 Last, P. R. NEW AUSTRALIAN FISHES. PART 14. TWO NEW SPECIES OF *DASYATIS* (DASYATIDAE). *Mem. Mus. Vic.* 48(1):57-61. 1987. FR 34(2)
[CSIRO Div. Fish. Res., GPO Box 1538, Hobart, Tasm. 7001, Australia] *D. annotata* and *D. leylandi*.

89-002275 Lloris, D. and J. Rubado. [*ILUOCOETES FACALI* SP.N. (OSTEICHTHYUS, ZOARCIDAE), A NEW SPECIES FOR THE ICHTHYOFAUNA OF ARGENTINA.] *Rev. Mus. Argent. Zool.* 5(1):53-56. 1987. In Spanish with English summ. FR 34(2)
[Inst. Cienc. Mar. Barcelona, Paseo Nac., s/n-08003-Barcelona, Spain]

89-002276 Martinez, Anita M. IDENTIFICATION AND STATUS OF COLORADO CUTTHROAT TROUT IN COLORADO. *Am. Fish. Soc. Symp.* 4:81-89. 1988. FR 34(2)
[Div. Wildl., 711 Independent Ave., Grand Junction, CO 81505] *Oncorhynchus pleuroticus*.

89-002277 Mooij, W. M. A KEY TO THE IDENTIFICATION OF LARVAL BREAM, *ABRAMA*, WHITE BREAM, *BLICCA BJOERKNIA*, AND ROACH, *RUTILUS RUTILUS*. *Neth. J. Zool.* 34(1):111-118. 1989. FR 34(2)
[Limnol. Inst., De Akkers 47, 8536 VD Oosterzee, Netherlands]

89-002278 Paulin, C. D. NEW AUSTRALIAN FISHES. PART 17. NEW SPECIES OF *CALLOPTILUS* AND *PHYSICULUS* (MORIDAE). *Mem. Mus. Vic.* 48(1):75-77. 1987. FR 34(2)
[Dep. Ichthyol., Natl. Mus. New Zealand, Private Bag, Wellington, New Zealand] *C. therosideros* and *C. norops*.

89-002279 Peterka, J. J. FISHES IN NORTHERN PRAIRIE WETLANDS. In: *Northern Prairie Wetlands*. Arnold van der Valk, editor. p. 302-315. 1989. FR 34(2)
[Zool. Dep., N.D. State Univ., Fargo 58105] *Pimephales promelas* and *Culex inconstans*.

89-002280 Poss, Stuart G. and Gerald R. Allen. NEW AUSTRALIAN FISHES. PART 18. NEW SPECIES OF *COCOTROPUS* (APLOACTINIDAE). *Mem. Mus. Vic.* 48(1):79-82. 1987. FR 34(2)
[Gulf Coast Res. Lab., Ocean Springs, MS 39564] *C. larvatus*.

89-002283 Rauchenberger, Mary. SYSTEMATICS AND BIOGEOGRAPHY OF THE GENUS *CAMBUSIA* (CYPRINODONTIFORMES: POECILIIDAE). Ph.D. dissertation, City Univ. N.Y. 326p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(8):3052-3053 1989. Order No. DA8920991. FR 34(2)

89-002284 Roberts, Clive D. NEW AUSTRALIAN FISHES. PART 19. A NEW SPECIES OF *LEPIDOPERCA* (SERRANIDAE). *Mem. Mus. Vic.* 48(1):83-84. 1987. FR 34(2)
[Dep. Zool., Victoria Univ. Wellington, Private Bag, Wellington, New Zealand] L. filamenta.

89-002285 Russell, Barry C. NEW AUSTRALIAN FISHES. PART 20. A NEW SPECIES OF *APLODACTYLUS* (APLODACTYLIDAE). *Mem. Mus. Vic.* 48(1):85-87. 1987. FR 34(2)
[Div. Nat. Sci., Northern Territory Mus. Arts & Sci., P.O. Box 4646, Darwin, N.T. 5794, Australia] *A. westralis*.

89-002286 Russell, Barry C. REVISION OF THE LABRID FISH GENUS *PSEUDOLABRUS* AND ALLIED GENERA. *Rec. Aust. Mus. Suppl.* 9. 76p. 1989. Available from Circulation Officer (Community Relations), Australian Mus., P.O. Box A285, Sydney South, N.S.W. 2000, Australia. FR 34(2)
[Div. Nat. Sci., North. Territory Mus., P.O. Box 4646, Darwin, N.T. 5794, Australia] *Notolabrus*, *Dotalabrus*, *Eupetrichthys*, *Pictilabrus*, and *Austrolabrus*.

89-002287 Shimizu, T. and J. B. Hutchins. NEW AUSTRALIAN FISHES. PART 21. A NEW SPECIES OF *CENTROBERYX* (BERYCIDAE). *Mem. Mus. Vic.* 48(1):89-90. 1987. FR 34(2)
[14-12, Komono 4-chome, Itabashi-ku, Tokyo 173, Japan] *C. australis*.

89-002288 Skelton, P. H. A TAXONOMIC REVISION OF THE REDFIN MINNOWS (PISCES: CYPRINIDAE) FROM SOUTHERN AFRICA. *Ann. Cape Prov. Mus. Nat. Hist.* 16(10):201-300. 1988. FR 34(2)
[J.L.B. Smith Inst. Ichthyol., Private Bag 1015, Grahamstown 6140, South Africa] *Barbus* spp.

89-002289 Smith, Gerald R. and Ralph F. Stearley. THE CLASSIFICATION AND SCIENTIFIC NAMES OF RAINBOW AND CUTTHROAT TROUTS. *Fisheries (Bethesda)* 14(1):4-10. 1989. FR 34(2)
[Mus. Zool. & Mus. Paleontol., Univ. Mich., Ann Arbor 48109] *Oncorhynchus clarki* and *O. mykiss*.

89-002290 Stepien, C. A. and R. H. Rosenblatt. A PHYLOGENETIC AND DISTRIBUTIONAL ANALYSIS OF THE EASTERN PACIFIC MYXODIN CLINID (KELPFISHES). *Am. Zool.* 28(4):36A. 1988. Abstract only. FR 34(2)
[Scripps Inst. Oceanogr., Univ. Calif., San Diego]

89-002291 Stiasny, Melanie L. J. CICHLID FAMILIAL INTRARELATIONSHIPS AND PLACEMENT OF THE NEOTROPICAL GENUS *CICHLA* (PERCIFORMES, LABROIDEI). *J. Hist.* 21(5):1311-1331. 1987. FR 34(2)
[Mus. Comp. Zool., Harvard Univ., Cambridge, MA 02138]

89-002292 Swale, Brian. SCIENTIFIC NAME OF SILVER CARP. *Freshwater Catch Ne* p. 14. 1988. FR 34(2)
Hypophthalmichthys molitrix.

89-002293 Taylor, Frances R. and John W. Pedretti. THE SUBSPECIFIC IDENTITY OF AMARGOSA PUFFISH (*CYPRINODON NEVADENSIS*) FROM SHOSHONE SPRINGS, COUNTY, CALIFORNIA. *Proc. Desert Fishes Council*. 18:200. 1987. Abstract only. FR 34(2)

89-002294 Vari, Richard P. A PHYLOGENETIC STUDY OF THE NEOITROPHIC CHARACIFORM FAMILY CURIMATIDAE (PISCES: OSTARIOPHYSI). *Smithson. Contrib. Zool.* 471. 71p. 1989. In English with Spanish summ. FR 34(2)
[Dep. Vertebr. Zool., Natl. Mus. Nat. Hist., Smithsonian Inst., Washington, DC 20560]

89-002295 Vari, Richard P. and Ann M. Williams. HEADSTANDERS OF THE NEOITROPHIC ANOSTOMID GENUS *ABRAMITES* (PISCES: CHARACIFORMES: ANOSTOMIDAE). *Proc. Biol. Soc. Wash.* 100(1):89-103. 1987. FR 34(2)
[Dep. Vertebr. Zool., Natl. Mus. Nat. Hist., Smithsonian Inst., Washington, DC 20560]
A. eques and *A. hypselonotus* in Colombia.

89-002296 Weitzman, Stanley H. A NEW SPECIES OF *XENUROBRYCON* (HELOSTOMATIDAE) FROM THE RIO MAMORE BASIN OF BOLIVIA. *Proc. Biol. Soc. Wash.* 100(1):112-120. 1987. FR 34(2)
[Dep. Vertebr. Zool., Natl. Mus. Nat. Hist., Smithsonian Inst., Washington, DC 20560] *X. polyancistrus*.

89-002297 Williams, Jack E. and James E. Deacon. WHO'S MINDING THE POOL: ON THE SUBSPECIFIC IDENTITY OF THE PUFFISH IN CRYSTAL SPRING, ASH MEADOWS, NEVADA. *Proc. Desert Fishes Council*. 17:178. English and Spanish abstract only. FR 34(2)
[U.S. Fish & Wildl. Serv., 2800 Cottage Way, Rm. E-1023, Sacramento, CA 95834]
Cyprinodon nevadensis mionectes.

89-002298 Wongratana, Thosaporn. FOUR NEW SPECIES OF CLUPEOID FISHES (CLUPEIDAE AND ENGRAULIDAE) FROM AUSTRALIAN WATERS. *Proc. Biol. Soc. Wash.* 100(1):104-110. 1987. FR 34(2)
[Dep. Biol., Fac. Sci., Chulalongkorn Univ., Bangkok 10500, Thailand] *Herklotsichthys colletti*, *Stolephorus advenus*, *Thryssa marasrae* and *Setipinna paxtoni*.

PARASITES AND DISEASES-GENERAL

89-002299 Armstrong, R. D.; T. P. T. Evelyn; S. W. Martin; W. Dorward and J. Ferguson. ERYTHROMYCIN LEVELS WITHIN EGGS AND ALEVINS DERIVED FROM SPAWNED BROODSTOCK CHINOOK SALMON *ONCORHYNCHUS Tshawytscha* INJECTED WITH DRUG. *Dis. Aquat. Org.* 6(1):33-36. 1989. FR 34(2)

- 89-002300 Chew-Lim, M.; R. Singh; T. M. Chao and L. Cheong. BACTERIA AND VIRUS OF MARINE FISH AND PRAWNS FARMED IN SINGAPORE. *Singapore Vet. J.* No. 10, p. 235. 1986. From Vet. Bull. 58(12):7799. 1988. FR 34(2)
[Cent. Vet. Lab., 40 Kampong Java Rd., Singapore 0922]
- 89-002301 Ellis, A. E. RESEARCH IN FISH DISEASES. In: *Developments in Fisheries Research in Scotland*. B. S. Balley and B. B. Parrish, editors. p. 264-274. 1987. FR 34(2)
- 89-002302 Fryer, J. L. EPIDEMIOLOGY AND CONTROL OF INFECTIOUS DISEASES OF SALMONIDS IN THE COLUMBIA RIVER BASIN: ANNUAL REPORT, FY 1986. *Oreg. State Univ. DOE/BP/11987-2*. 44p. 1986. From U.S. Government Reports 87(22):20. 1988. Available from NTIS as DE87009918/GAR. FR 34(2)
- 89-002303 Gartner, J. V., Jr. and D. E. Zwerner. THE PARASITE FAUNAS OF MESO AND BATHYPELAGIC FISHES OF NORFOLK SUBMARINE CANYON, WESTERN NORTH ATLANTIC. *J. Fish Biol.* 34(1):79-95. 1989. FR 34(2)
[Dep. Mar. Sci., Univ. S. Fla., 140 7th Ave. S.E., St. Petersburg 33701] Data for 1 species.
- 89-002304 Kolarova, V. [ACTION OF A COMBINATION OF FORMALDEHYDE AND BRILLIANT GREEN AGAINST SOME ECTOPARASITES OF CARP.] *Vet. Sbirka* 86(3):37. 1988. In Bulgarian. From Vet. Bull. 58(12):7797. 1988. FR 34(2)
[Tsentrlna Veterinarnomed. Inst., Sofia, Bulgaria]
- 89-002305 Lie, Oystein; Oystein Evensen; Anita Sorensen and Ellen Froysadal. STUDY ON LYSOZYME ACTIVITY IN SOME FISH SPECIES. *Dis. Aquat. Org.* 6(1):1-5. 1989. FR 34(2)
[Natl. Vet. Inst., P.O. Box 8156 Dep, N-0033 Oslo 1, Norway] *Oncorhynchus mykiss* and *Salmo salar*.
- 89-002306 Lyles, A. M. PATTERNS OF PARASITE INFECTION IN THE GUPPY. *Am. Zool.* 28(4):51A. 1988. Abstract only. FR 34(2)
[Princeton Univ., Princeton, NJ] *Poecilia reticulata* in Trinidad and Tobago.
- 89-002307 Norway Central Bureau of Statistics. VETERINARY STATISTICS 1986. *Veterinaerstatistikk 1986. Oslo, Norway; Statistisk Sentralbyra* 93p. 1988. In English and Norwegian. From Vet. Bull. 58(12):8045. 1988. FR 34(2)
- 89-002308 Odening, K.; G. Walter and I. Bockhardt. [SEASONAL DYNAMICS OF SPHAEROSPORA RENICOLA (MYXOSPORIDIA) IN CARPS (OSTEICHTHYES).] *Angew. Parasitol.* 29(2):65-80. 1988. In German with English and Russian summ. From Protozool. Abstr. 12(11):3163. 1988. FR 34(2)
[Forschung. Wirbeltierforschung, Akad. Wissenschaften, Berlin 1136, East Germany] *Carassius auratus auratus* and *Cyprinus carpio* in East Germany.
- 89-002309 Reda, E. S. A. AN ANALYSIS OF PARASITE FAUNA OF BREAM, *ABRAMIS BRAMA* (L.) IN VISTULA NEAR WARSZAWA IN RELATION TO THE CHARACTER OF FISH HABITAT. I. REVIEW OF PARASITE SPECIES. *Acta Parasitol. Pol.* 32(4):309-326. 1987. In English with Polish summ. From Protozool. Abstr. 12(11):3161. 1988. FR 34(2)
[W. Stefanski Inst. Parasitol., Polish Acad. Sci., Białystok, Poland]

89-002311 Carson, J. and J. Handlinger. VIRULENCE OF THE AETIOLOGICAL AGENT OF GOLDFISH ULCER DISEASE IN ATLANTIC SALMON, *SALMO SALAR* L. *J. Fish Dis.* 11(6):471-479. 1988. FR 34(2)

[Mt. Pleasant Lab., Dep. Agric., P.O. Box 46, Launceston South, Tasm 7249, Australia]
Corossius auratus.

89-002312 Cossarini-Dunier, M.; A. Demael; D. Lepot and V. Guerin. EFFECT OF MANGANESE IONS ON THE IMMUNE RESPONSE OF CARP (*CYPRINUS CARPIO*) AGAINST *YERSINIA RUCKER*. *Dev. Comp. Immunol.* 12(3):573-579. 1988. From Vet. Bul 58(12):7527. 1988. FR 34(2)

[Lab. Ecotoxicol. INRA-ENV LYON, B.P. 31, 69752 Charbonnières, France]

89-002313 Daoust, P.-Y.; B. E. Larson and G. R. Johnson. MYCOBACTERIOSIS IN YELLOW PERCH (*PERCA FLAVESCENS*) FROM TWO LAKES IN ALBERTA. *J. Wildl. Dis.* 25(1):31-37. 1989. FR 34(2)

[Dep. Pathol. & Microbiol., Atlantic Vet. Coll., Univ. Prince Edward Island Charlottetown, PE, Canada C1A 4P3]

89-002314 Del Corral, Fernando. VIRULENCE PROPERTIES OF SELECTED BACTERIAL FISH PATHOGENS. *Ph.D. dissertation, Univ. Ga.* 227p. 1988. From Diss. Abstr. Int. B Sc Eng. 49(9):3529. 1989. Order No. DA8823785. FR 34(2)

Ictalurus punctatus.

89-002315 Hatai, Kishio; Ong-ard Lawhavit; Saburoh S. Kubota; Kunio Toda and Nori Suzuki. PATHOGENICITY OF *MYCOBACTERIUM* SP. ISOLATED FROM PEJERREY *ODONTHESTES BONARIENSIS*. *Fish Pathol.* 23(3):155-159. 1988. FR 34(2)

[Dep. Fish Dis., Nippon Vet. & Zootech. Coll., Kyonan Cho, Musashino, Tokyo 180, Japan]

89-002316 Hayashi, Fujio and Matsuhisa Inoue. OXACILLIN-HYDROLYZING PENICILLINASE PRODUCED BY *AEROMONAS HYDROPHILA*. *Bull. Jpn. Soc. Sci. Fish.* 54(12):2227. 1988. In English. FR 34(2)

[Gunma Prefectural Fish. Exp. Stn., Shikishima, Maebashi 371, Japan] *Anguilla japonica*.

89-002317 Kawai, Kenji; Shozo Yamamoto and Riichi Kusuda. PLANKTON-MEDIATED ORAL DELIVERY OF *VIBRIO ANGUILLARUM* VACCINE TO JUVENILE AYU. *Bull. Jpn. Soc. Sci. Fish.* 55(1):35-40. 1989. In English. FR 34(2)

[Fish Dis. Lab., Fac. Agric., Kochi Univ., Nankoku, Kochi 783, Japan] *Plecoglossus altivelis*.

89-002318 Kent, Michael L.; J. M. Groff; J. K. Morrison; W. T. Yasutake and R. A. Holt. SPIRAL SWIMMING BEHAVIOR DUE TO CRANIAL AND VERTEBRAL LESIONS ASSOCIATED WITH *CYTOPIAGA PSYCHROPHILA* INFECTIONS IN SALMONID FISHES.

- 89-002319 Kusuda, Riichi; Takashi Tanaka. [OPSONIC EFFECT OF ANTIBODY AND COMPLEMENT ON PHAGOCYTOSIS OF *STREPTOCOCCUS* SP. BY MACROPHAGE-LIKE CELLS OF YELLOWTAIL.] *Bull. Jpn. Soc. Sci. Fish.* 54(12):2065-2069. 1988. In Japanese with English summ. FR 34(2)
[Fish Dis. Lab., Fac. Agric. Kochi Univ., Nankoku, Kochi 783, Japan] *Seriola quinqueradiata*.
- 89-002320 Kusuda, Riichi; Manabu Ninomiya; Masami Hamaguchi and Anchiro Murakami. [THE EFFICACY OF RIBOSOMAL VACCINE PREPARED FROM *PASTEURELLA PISCICIDA* AGAINST PSEUDOTUBERCULOSIS IN CULTURED YELLOWTAIL.] *Fish Pathol.* 23(3):191-196. 1988. In Japanese with English summ. FR 34(2)
[Fish Dis. Lab., Fac. Agric., Kochi Univ., Nankoku Kochi 783, Japan] *Seriola quinqueradiata*.
- 89-002321 Lawrence, W. B. and J. Brisker. OUTBREAK OF PISCINE TUBERCULOSIS (MYCOBACTERIOSIS) IN AN AQUARIUM. *Army Med. Res. Inst. Infect. Dis.* 11p. 1987. From U.S. Government Reports 88(12):193. 1988. Available from NTIS as AD-A189 129/0/GAR. FR 34(2)
- 89-002322 Moffitt, Christine M. and Julie A. Schreck. ACCUMULATION AND DEPLETION OF ORALLY ADMINISTERED ERYTHROMYCIN THIOCYANATE IN TISSUES OF CHINOOK SALMON. *Trans. Am. Fish. Soc.* 117(4):394-400. 1988. FR 34(2)
[Coop. Fish & Wildl. Res. Unit, Dep. Fish & Wildl. Resour., Univ. Idaho, Moscow 83843] *Oncorhynchus tshawytscha*.
- 89-002323 Phipps, Barry Michael. PURIFICATION, BIOCHEMICAL CHARACTERIZATION AND MOLECULAR CLONING OF THE REGULAR SURFACE LAYER A PROTEIN OF *AEROMONAS SALMONICIDA*. Ph.D. dissertation, Univ. Victoria (Canada) 1988. From Diss. Abstr. Int. B Sci. Eng. 49(9):3588. 1989. FR 34(2)
- 89-002324 Plumb, J. A. and P. Klesius. AN ASSESSMENT OF THE ANTIGENIC HOMOGENEITY OF *EDWARDSIELLA ICTALURI* USING MONOCLONAL ANTIBODY. *J. Fish Dis.* 11(6):499-509. 1988. FR 34(2)
[Dep. Fish. & Allied Aquacult., Agric. Exp. Stn., Auburn Univ., Auburn, AL 36849]
- 89-002325 Rasheed, Victoria. VIBRIOSIS OUTBREAK AMONG CULTURED SEABREAM (*ACANTHOPAGRUS CUVIERI*) BROODSTOCK IN KUWAIT. *Aquaculture* 76(3/4):189-197. 1989. FR 34(2)
[Inst. Sci. Res., Maricult. & Fish. Dep., P.O. Box 24885, 13109 Safat, Kuwait]
- 89-002326 Sakata, Taizo; Mamoru Matsuura and Yoichi Shimokawa. CHARACTERISTICS OF *VIBRIO DAMSELA* ISOLATED FROM DISEASED YELLOWTAIL *SERIOLA QUINQUERADIATA*. *Bull. Jpn. Soc. Sci. Fish.* 55(1):135-141. 1989. In English. FR 34(2)
[Fac. Fish., Kagoshima Univ., Shimoarata Kagoshima 890, Japan]
- 89-002327 Salati, Fulvio; Keisuke Watanabe; Kenji Kawai and Riichi Kusuda. IMMUNE RESPONSE OF AYU AGAINST *VIBRIO ANGUILLARUM* LIPOPOLYSACCHARIDE. *Bull. Jpn. Soc. Sci. Fish.* 55(1):45-49. 1989. In English. FR 34(2)

- 89-002328 Sharpe-Fajardo, E.; P. Thomas and D. Lewis. PHYSIOLOGICAL EFFECTS OF *VIBRIO ANGUILLARUM* EXTRACELLULAR TOXIN IN RED DRUM *SCIAENOPS OCELLATUS*. *Am. Zool.* 28(4):21A. 1988. Abstract only. FR 34(2)
[Univ. Tex., Mar. Sci. Inst., Port Aransas]
- 89-002329 Song, Yen-Ling; J. L. Fryer and J. S. Rohovec. COMPARISON OF GLIDING MOTILITY OF *VIBRIO ANGUILLARUM* BACTERIA ISOLATED FROM FISH IN NORTH AMERICA AND OTHER AREAS OF THE PACIFIC RIM. *Fish Pathol.* 23(3):197-202. 1988. FR 34(2)
[Dep. Zool., Natl. Taiwan Univ., Taipei, Taiwan 10764, China] Data for 12 species.
- 89-002330 Song, Yen-Ling; Shiu-Nan Chen and Guang-Hsiung Kou. SEROTYPING OF *VIBRIO ANGUILLARUM* STRAINS ISOLATED FROM FISH IN TAIWAN. *Fish Pathol.* 23(3):185-189. 1988. FR 34(2)
[Dep. Zool., Natl. Taiwan Univ., Taipei, Taiwan 10764, China] *Chanos chanos*, *Plecoglossus altivelis*.
- 89-002331 Sugita, Haruo; Michikazu Fukumoto; Hiromitsu Koyama and Yoshiaki Deguchi. CHANGES IN THE FECAL MICROFLORA OF GOLDFISH *CARASSIUS AURATUS* WITH TETRACYCLINE ORAL ADMINISTRATION OXYTETRACYCLINE. *Bull. Jpn. Soc. Sci. Fish.* 54(12):2181-2185. 1988. (In English. FR 34(2))
[Dep. Fish., Coll. Agric. & Vet. Med., Nihon Univ., Shimouma, Setagaya, Tokyo 108, Japan]
- 89-002332 Teska, Jeffrey D.; Emmett B. Shotts and Tachuan Hsu. AUTOMATED BIOCHEMICAL IDENTIFICATION OF BACTERIAL FISH PATHOGENS USING THE ABBOQUANTUM II. *J. Wildl. Dis.* 25(1):103-107. 1989. FR 34(2)
[Dep. Med. Microbiol., Coll. Vet. Med., Univ. Ga., Athens 30602]
- 89-002333 Thorburn, Margaret A.; Eva Jansson and Ann Thuvander. *VIBRIO* VACCINATION OF RAINBOW TROUT *SALMO GAIIRDNERI* AT VARYING TEMPERATURES AND SEASONS. II. EFFECTS ON ANTIBODY PRODUCTION IN FIVE SWEDISH FIELD TRIALS. *Dis. Aquat. Org.* 6(1):27-32. 1989. FR 34(2)
[Natl. Vet. Inst., Box 7073, S-750 07 Uppsala, Sweden]
- 89-002334 Thorburn, Margaret A.; Tim E. Carpenter and Olle Ljungberg. *VIBRIO* VACCINATION OF RAINBOW TROUT *SALMO GAIIRDNERI* AT VARYING TEMPERATURES AND SEASONS. I. EFFECTS ON MORTALITY AND FEED CONVERSION IN FOUR SWEDISH FIELD TRIALS. *Dis. Aquat. Org.* 5(3):179-183. 1988. FR 34(2)
[Natl. Vet. Inst., P.O. Box 7073, S-750 07 Uppsala, Sweden]
- 89-002335 Thorburn, Margaret A. and Eva K. Jansson. FREQUENCY DISTRIBUTIONS OF ABSORBANCE VALUES FROM AN ELISA FOR *VIBRIO ANGUILLARUM* ANTIBODIES. *Dis. Aquat. Org.* 5(3):171-177. 1988. FR 34(2)
[Natl. Vet. Inst., P.O. Box 7073, S-750 07 Uppsala, Sweden] *Oncorhynchus mykiss*.

[Dep. Agric., Cent. Vet. Lab., Roy Watts Rd., Glenfield, N.S.W. 2161, Australia]
Oncorhynchus mykiss, *Salvelinus fontinalis*, *Salmo trutta*, and *S. salar* in Australia.

89-002337 Yoshimizu, Mamoru; Rongxion Ji; Manabu Sami and Takahisa Kimura. [COMPARISON OF FITC CONJUGATE AVIDIN-BIOTIN COMPLEX (ABC) METHOD AND INDIRECT FAT FOR THE DETECTION RATE OF *RENIBACTERIUM SALMONINARUM* ANTIGEN IN CARRIER FISH IN BKD.] *Fish Pathol.* 23(3):171-174. 1988. In Japanese with English summ. FR 34(2)

[Lab. Microbiol., Fac. Fish., Hokkaido Univ., Minato 3-1-1, Hakodate 041, Japan]
Oncorhynchus masou.

89-002338 Zajac, David. Ray Brunson; Richard Comstock and Ken Gilliam. RELATIONSHIP BETWEEN CODED WIRE TAGGING AND BACTERIAL KIDNEY DISEASE IN COHO SALMON. *Prog. Fish-Cult.* 50(3):187-188. 1988. FR 34(2)

[U.S. Fish & Wildl. Serv., Olympia, WA 98502] *Oncorhynchus kisutch*.

FUNGAL DISEASES

89-002339 Hatai, K. and S. S. Kubota. A VISCERAL MYCOSIS IN CULTURED MASU SALMON (*ONCORHYNCHUS MASOU*) CAUSED BY A SPECIES OF *OCHROCONIS*. *J. Wildl. Dis.* 25(1):83-88. 1989. FR 34(2)

[Dep. Fish Dis., Nippon Vet. & Zootech. Coll., 1-7-1 Kyonan Cho, Musashino, Tokyo 129, Japan]

89-002340 Nunez, Oliva; Jerry D. Hendricks and George S. Bailey. ENHANCEMENT OF AFLATOXIN B₁ AND N-METHYL-N'-NITRO-N-NITROSOQUANIDINE HEPATOCARCINOGENESIS IN RAINBOW TROUT *SALMO GAIIRDNERI* BY 17-B-ESTRADIOL AND OTHER ORGANIC CHEMICALS. *Dis. Aquat. Org.* 5(3):185-196. 1988. FR 34(2)

[Hendricks: Dep. Food Sci. & Technol., Oreg. State Univ., Corvallis 97331-6602]

PROTOZOAN DISEASES

89-002341 Azevedo, Carlos; Jiri Lom and Laura Corral. ULTRASTRUCTURAL ASPECTS OF *MYXIDIUM GIARDI* (MYXOZOA, MYXOSPOREA), PARASITE OF THE EUROPEAN EEL *ANGUILLA ANGUILLA*. *Dis. Aquat. Org.* 6(1):55-61. 1989. FR 34(2)

[Dep. Cell Biol., Inst. Biomed. Sci., Univ. Oporto, P-4000 Porto, Portugal]

89-002342 Desser, S.; W. Paterson and D. Steinhagen. ULTRASTRUCTURAL OBSERVATIONS ON THE CAUSATIVE AGENT OF EPITHELIOCYSTIS IN THE BROWN BULLHEAD, *ICTALURUS NEBULOSUS* LESUEUR, FROM ONTARIO AND A COMPARISON WITH THE CHLAMYDIAE OF HIGHER VERTEBRATES. *J. Fish Dis.* 11(6):453-460. 1988. FR 34(2)

[Dep. Zool., Univ. Toronto, Toronto, ON, Canada M5S 1A1]

89-002343 Diamant, A. and I. Paperna. CYTOPATHOLOGY OF *CERATOMYXA* SP. (MYXOSPOREA) HYPERPARASITIZED WITH THE MICROSPORIDAN *NOSEMA CERATOMYXA*. *Dis. Aquat. Org.* 6(1):75-79. 1989. FR 34(2)

89-002345 Elston, R. A.; M. L. Kent and L. H. Harrell. AN INTRANSCIT MICROSPORIDIUM ASSOCIATED WITH ACUTE ANEMIA IN THE CHINOOK SALMON *ONCORHYNCHUS Tshawytscha*. *J. Protozool.* 34(3):274-277. 1987. FR 34(2)
[Cent. Mar. Dis. Control, Battelle/Mar. Res. Lab., 439 W. Sequim Bay Rd., Sequim, 98382]

89-002346 Jastrzebski, Miroslaw. ULTRASTRUCTURAL STUDY ON THE DEVELOPMENT OF *GOSSIA ACULEATI*, A COCCIDIUM PARASITIZING THE THREE-SPINED STICKLEBACK *GAUSTEROSTEUS ACULEATUS*. *Dis. Aquat. Org.* 6(1):45-53. 1989. FR 34(2)
[Dep. Parasitol. & Parasitic Dis., Vet. Fac., Agric. Univ., 03-849 Warsaw, Grochowska 272, Poland]

89-002347 Kent, Michael L.; T. K. Sawyer and R. P. Hedrick. *PARAMOEBIA PEMAQUIDENSIS* (SARCOMASTIGOPHORA: PARAMOEBIDAE) INFESTATION OF THE GILLS OF COHO SALMON *ONCORHYNCHUS KISUTCH* REARED IN SEA WATER. *Dis. Aquat. Org.* 5(3):163-169. 1988. FR 34(2)
[Dep. Fish. & Oceans, Pac. Biol. Stn., Nanaimo, BC, Canada V9R 5K6]

89-002348 Kiskaroly, M. and A. Tafro. [SYMPTOMS, PATHOLOGICAL PICTURE AND DIAGNOSIS OF THE MOST FREQUENT PARASITIC DISEASES IN FRESHWATER PONDS (PROTOZOAN DISEASES 2).] *Vet. Glas.* 42(1):27-33. 1988. In Serbo Croatia with Eng and Russian summ. From Protozool. Abstr. 12(11):3162. 1988. FR 34(2)
[Vet. Fak., Sarajevo, Yugoslavia] *Salmo* spp., *Cyprinus carpio*, and *Ctenopharyngodon idella* in Yugoslavia.

89-002349 Lopes, R. A.; R. D. Ribeiro; A. Nuti-Sobrinho; T. Satake and H. A. Brito. TRYPANOSOMES OF BRAZILIAN FISHES. IX. *TRYPANOSOMA PINTOI* SP. N. IN ARMORED CATFISH *HYPOSTOMUS* SP. II (PISCES, LORICARIIDAE), FROM MOGI-GUAÇU RIVER, MUNICIPALITY OF PITANGUEIRAS, SP, BRAZIL. *Mem. Inst. Oswaldo Cruz Rio de Janeiro* 83(Suppl. 1):P2-20. 1988. Abstract only. FR 34(2)

89-002350 Markiw, Maria E. PORTALS OF ENTRY FOR SALMONID WHIRLING DISEASE IN RAINBOW TROUT. *Dis. Aquat. Org.* 6(1):7-10. 1989. FR 34(2)
[U.S. Fish & Wildl. Serv., Natl. Fish Health Res. Lab., Box 700, Kearneysville, WV 25430] *Oncorhynchus mykiss*.

89-002351 Miyazaki, T.; W. A. Rogers and J. A. Plumb. HISTOPATHOLOGICAL STUDY ON PARASITIC PROTOZOAN DISEASES OF THE CHANNEL CATFISH IN THE UNITED STATES. *Bull. Fac. Fish. Mie Univ.* No. 13. p. 1-9. 1988. From Vet. Bull. 58(12) 7-19. 1988. FR 34(2)
[Fac. Fish., Mie Univ., Edobashi, Ise, Japan] *Ictalurus punctatus*.

PROTOZOAN DISEASES (CONTINUED)

- 89-002352 Molnar, K. PRESPOROGONIC DEVELOPMENT OF *SPHAEROSPORA RENICOLA* DYKOVA & LOM, 1982, IN THE SWIMBLADDER OF THE COMMON CARP, *CYPRINUS CARPIO* L. *J. Fish Dis.* 11(6):489-497. 1988. FR 34(2)
[Vet. Med. Res. Inst., Hungarian Acad. Sci., P.O. Box 18, H-1581 Budapest, Hungary]
- 89-002353 Morillas, J.; M. George-Nascimento; H. Valeria and R. A. Khan. *TRYPANOSOMA HUMBOLDTI* N.SP. FROM THE CHILEAN CATSHARK, *SCHROEDERICHTHYS CHILENSIS* (GUICHENOT, 1848). *J. Protozool.* 34(3):342-344. 1987. FR 34(2)
[Dep. Biol. & Tecnol. del Mar, Pontificia Univ. Catolica Chile, Sede Talcahuano, Casilla 127, Talcahuano, Chile]
- 89-002354 Mork, Jarle. PREVALENCE OF THE HAEMOFLAGELLATE *TRYPANOSOMA* SP. IN SOME COMMON NORWEGIAN MARINE FISH SPECIES. *Sarsia* 73(4):263-266. 1988. FR 34(2)
[Biol. Stn., Byenesveien 46, N-7018 Trondheim, Norway] *Melanogrammus aeglefinus*, *Trisopterus minutus*, and *Limanda limanda*.
- 89-002355 Ribeiro, R. D.; R. A. Lopes; T. Satake; A. Nuti-Sobrinho and H. A. Britski. TRYPANOSOMES OF BRAZILIAN FISHES. VIII. *TRYPANOSOMA ITOI* SP. N. FROM ARMORED CATFISH *HYPOSTOMUS* SP. 1 (PISCES, LORICARIIDAE), FROM MOGI-GUAÇU RIVER, MUNICIPALITY OF PITANGUEIRAS, SP, BRAZIL. *Mem. Inst. Oswaldo Cruz Rio J.* 83(Suppl. 1):PZ-19. 1988. Abstract only. FR 34(2)
- 89-002356 Siqueira, H. A. J. and D. L. Dawe. CHARACTERIZATION OF MONOCLONAL ANTIBODIES DIRECTED AGAINST ANTIGENS OF *TETRAHYMENA PYRIFORMIS*. *Mem. Inst. Oswaldo Cruz Rio J.* 83(Suppl. 1):PZ-43. 1988. Abstract only. FR 34(2)
[Lab. Imunol. Clinica, Fac. Cienc. Med. Minas Gerais, Belo Horizonte, MG, Brazil] *Ictalurus punctatus*.
- 89-002357 Thomas, Philip Thanuvellil. THE IMMUNOBIOLOGY OF THE HOST-PARASITE RELATIONSHIP BETWEEN *SALMO GAIARDNERI* RICHARDSON AND *CRYPTOBIA SALMOSITICA* KATZ. Ph.D. dissertation, Univ. Guelph (Canada) 1988. From Diss. Abstr. Int. B Sci. Eng. 49(9):3630-3631. 1989. FR 34(2)

VIRAL DISEASES

- 89-002358 Ahne, W.; P. E. V. Jorgensen; N. J. Olesen and W. Wattanavijarn. SEROLOGICAL EXAMINATION OF A RHABDOVIRUS ISOLATED FROM SNAKEHEAD (*OPHICEPHALUS STRIATUS*) IN THAILAND WITH ULCERATIVE SYNDROME. *J. Appl. Ichthyol.* 4(4):194-196. 1988. In English with German and French summ. FR 34(2)
[Inst. Zool. & Hydrobiol., Univ. Munich, Kaulbachstr. 37, D-8000 Munich 22, West Germany]
- 89-002359 Amidel, R. EDUCATING FISHERIES MANAGERS: PROCEEDINGS OF A CALIFORNIA SEA GRANT WORKSHOP HELD AT DAVIS, CALIFORNIA ON APRIL 3, 1986. *Calif. Sea Grant Coll. Prog. (La Jolla)* T-CSGCP-016. 47p. 1987. From U.S. Government Reports 87(15):16. 1987. Available from NTIS as PB87-175226

Singapore Vet. J. No. 10. p. 78-85. 1987. From Vet. Bull. 58(12):7800. 1988. FR 34(2)
[Cent. Vet. Lab., 40 Kampong Rd., Singapore 0922] *Lepomis macrochirus*.

89-002362 Eaton, William Douglas. CHARACTERISTICS OF THE STEELHEAD HERPESVIRUS.
Ph.D. dissertation, Univ. Calif., (Davis) 108p. 1988. From Diss. Abstr. Int. B Sci. 19
49(8):3007. 1989. Order No. DA8821695. FR 34(2)
Oncorhynchus mykiss and *O. tshawytscha*.

89-002363 Etchberger, Karen Jane. THE EFFECTS OF INFECTIOUS PANCREATIC
NECROSIS VIRUS INFECTION ON THE IMMUNE RESPONSES OF SALMONIDS. Ph.D.
dissertation, Univ. Maine 148p. 1987. From Diss. Abstr. Int. B Sci. Eng. 49(8):3007. 1989.
Order No. DA8818164. FR 34(2)
Salmo salar and *Salvelinus fontinalis*.

89-002364 Meier, W. and T. Wahli. VIRAL HAEMORRHAGIC SEPTICAEMIA (VHS) IN
GRAYLING, *THYMALLUS THYMALLUS* L. J. Fish Dis. 11(6):481-487. 1988. FR 34(2)
[Untersuchungsstelle Fischkrankheiten, Univ. Bern, Vet.-Pathol. Inst., Langgassstr.
CH-3012 Bern, Switzerland]

89-002365 Okamoto, Nobuaki; Hiroshi Hirotsu; Tokuo Sano and Michiharu Kobayashi.
[ANTIVIRAL ACTIVITY OF THE CRUDE EXTRACTS OF PHOTOTROPHIC BACTERIA
FISH VIRUSES.] Bull. Jpn. Soc. Sci. Fish. 54(12):2225. 1988. In Japanese with Eng.
summ. FR 34(2)
[Dep. Aquacult., Tokyo Univ. Fish., Konan, Minato, Tokyo 108, Japan]

89-002366 Sakai, D. K. MODULATION OF ENERGY METABOLISM IN IPN VIRUS INFECTED
CELLS CARRYING ACTUAL NET POSITIVE CHARGES. Fish Pathol. 23(3):161-169. 1988.
34(2)
[Hokkaido Fish Hatchery, Kitakashuwa 3-373, Eniwa, Hokkaido 061-14, Japan]
Oncorhynchus mykiss.

89-002367 Way, K. and P. F. Dixon. RAPID DETECTION OF VHS AND IHNV VIRUSES BY
THE ENZYME-LINKED IMMUNOSORBENT ASSAY (ELISA). J. Appl. Ichthyol. 4(4):182-187.
1988. In English with German and French summ. FR 34(2)
[Minist. Agric., Fish. & Food, Fish Dis. Lab., Weymouth, Dorset DT4 8UB, England]

89-002368 Wolf, Ken. FISH VIRUSES AND FISH VIRAL DISEASES. Cornell Univ. Press
476p. 1988. FR 34(2)

- 89-002371 Zhai Ziyu, Ko Hongwen, Yu Haoxiang, Gu Zhennan, Li Xuzhen, Cao Shugin and Gong Mingyao. [VIRAL HEMORRHAGIC DISEASE OF BLACK CARP (*MYLOPHARYNGODON PICEUS*).] *Zool. Res.* 8(4):379-386, 1987. In Chinese with English summ. FR 34(2)
[Shanghai Fish. Res. Inst., Shanghai, China]

OTHER DISEASES AND PARASITES

- 89-002372 Akiyama, Toshio; Hideaki Kabuto; Miori Hiramatsu, Takeshi Murai and Katsuyoshi Mori. EFFECT OF DIETARY 5-HYDROXY-L-TRYPTOPHAN FOR PREVENTION OF SCOLIOSIS IN TRYPTOPHAN-DEFICIENT CHUM SALMON FRY. *Bull. Jpn. Soc. Sci. Fish.* 55(1):99-104, 1989. In English. FR 34(2)
[Fish Nutr. Div., Natl. Res. Inst. Aquacult., Nansei, Mie 516-01, Japan] *Oncorhynchus keta*.
- 89-002373 Amin, Omar M. ABNORMALITIES IN SOME HELMINTH PARASITES OF FISH. *Trans. Am. Microsc. Soc.* 108(1):27-39, 1989. FR 34(2)
[Dep. Biol. Sci., Univ. Wis.-Parkside, Box 2000, Kenosha 53141]
- 89-002374 Atsuta, Shizuo; Kazuhiro Kobayashi; Masahiro Sakai and Masanori Kobayashi. [LIPOID DEGENERATION OF LIVER IN CULTURED COHO SALMON, *ONCORHYNCHUS KISUTCH*.] *Fish Pathol.* 23(3):205-206, 1988. In Japanese. FR 34(2)
- 89-002375 Bean, C. W. and I. J. Winfield. BIOLOGICAL AND ECOLOGICAL EFFECTS OF *LIGULA INTESTINALIS* (L.) INFESTATION OF THE GUDGEON, *GOBIO GOBIO* (L.), IN Lough Neagh, Northern Ireland. *J. Fish Biol.* 34(1):135-147, 1989. FR 34(2)
[Univ. Ulster Freshwater Lab., Traad Point, Ballyronan, Co. Londonderry BT45 6LR, Northern Ireland]
- 89-002376 Boon, J. H.; C. J. A. Lokin, R. Ceusters and F. Ollevier. SOME PROPERTIES OF THE BLOOD OF EUROPEAN EEL (*ANGUILLA ANGUILLA*) AND THE POSSIBLE RELATIONSHIP WITH *ANGUILLICOLA CRASSUS* INFESTATIONS. *Aquaculture* 76(3/4):263-268, 1989. FR 34(2)
[Dep. Fish Cult. & Fish., Wageningen Agric. Univ., P.O.B. 338, 6700 AH Wageningen, Netherlands]
- 89-002377 Bristow, Glenn A and Bjorn Berland. *DICTYOCOTYLE COELIACA* NYBELIN 1941 (MONOGENEA) FROM THE WEST COAST OF NORWAY. *Sarsia* 73(4):283-286, 1993. FR 34(2)
[Zool. Lab., Univ. Bergen, Allegaten 41, N-5007 Bergen, Norway] *Raja radinta* and *P. lineata*.

(PRODIGER) *GLYPTOCEPHALUS CYNOGLOSSUS* (L.), WITH NOTES ON THE ECOLOGY OF HOST AND PARASITE. *Sarsia* 73(4):287-290. 1988. FR 34(2)
[Zool. Lab., Univ. Bergen, Allegaten 41, N-5007 Bergen, Norway]

89-002379 Brown, A. F. SEASONAL DYNAMICS OF THE ACANTHOCEPHALAN *POMPHORHYNCHUS LAEVIS* (MÜLLER, 1776) IN ITS INTERMEDIATE AND PREFERRED DEFINITIVE HOSTS. *J. Fish Biol.* 34(2):183-194. 1989. FR 3(2)
[Nat. Conserv. Council, Northminster House, Peterborough PE1 1UA, England] *Leuciscus cephalus* and *Oncorhynchus mykiss*.

89-002380 Byrnes, T. CALIGIDS (COPEPODA: CALIGIDAE) FOUND ON THE BREAST OF *ACANTHOPAGRUS* SPP.) OF AUSTRALIA. *J. Nat. Hist.* 21(2):363-404. 1987. FR 34(2)
[69 Louis Dr., Farmingdale, NY 11735]

89-002381 Cheung, Paul J.; Ross F. Nigrelli; George D. Ruggieri and Gerald L. Crow. A NEW MICROBOTHRIID (MONOGENEAN) CAUSING SKIN LESION ON THE PACIFIC BLACKTIE REEF SHARK, *CARCHARHINUS MELANOPTERUS* (QUOY AND GAIMARD). *J. Aquaric Aquat. Sci.* 5(2):21-25. 1988. FR 34(2)
[Osborn Lab. Mar. Sci., N.Y. Zool. Soc., Brooklyn 11224]

89-002382 Colt, J.; G. Bouck and L. Fidler. REVIEW OF CURRENT LITERATURE AND RESEARCH ON GAS SUPERSATURATION AND GAS BUBBLE TRAUMA: SPECIAL PUBLICATION NUMBER 1. *Fish Factory (Davis, Calif.) DOE/ISF-808*. 53p. 1987. From U.S. Government Reports 87(22):19. 1987. Available from NTIS as DE87039906/GAR. FR 34(2)

89-002383 Cribb, T. H. STUDIES ON GORGODERID DIGENEANS FROM AUSTRALIAN AND ASIAN FRESHWATER FISHES. *J. Nat. Hist.* 21(5):1129-1153. 1987. FR 34(2)
[Dep. Parasitol., Univ. Queensland, Brisbane, Qld. 4067, Australia]

89-002384 Diamant, A. ECOLOGY OF THE ACANTHOCEPHALAN *SCLEROCOLLUM RUBRIMARIS* SCHMIDT AND PAPERNA, 1978 (RHADINORHYNCHIDAE GORGORHYNCHINAE) FROM WILD POPULATIONS OF RABBITFISH (GENUS *SIGANUS*) IN THE NORTHERN RED SEA. *J. Fish Biol.* 34(3):387-397. 1989. FR 34(2)
[Israel Oceanogr. & Limnol. Res. Inst., Natl. Cent. Maricult., P.O. Box 1212, Eilat 88112, Israel] *S. rivulatus* and *S. argenteus*.

89-002385 Dwyer, William P. and Charlie E. Smith. METACERCARIAE OF DIPLOSTOMID SPATHACEUM IN THE EYES OF FISHES FROM YELLOWSTONE LAKE, WYOMING. *J. Wildl. Dis.* 25(1):126-129. 1989. FR 34(2)
[U.S. Fish & Wildl. Serv., Fish Technol. Cent., 4050 Bridger Canyon Rd., Bozeman, MT 59715] *Oncorhynchus clarki* and *Catostomus commersoni*.

89-002386 Frandsen, F.; H. J. Malmquist and S. S. Snorrason. ECOLOGICAL PARASITOLOGY OF POLYMORPHIC ARCTIC CHARR, *SALVELINUS ALPINUS* (L.), IN THINGVALLAVATN, ICELAND. *J. Fish Biol.* 34(2):281-297. 1989. FR 34(2)
[Danish Bilharziasis Lab., Jaegersborg Alle 10, DK-2920 Charlottenlund, Denmark]

FISHES, U.S. Fish Wildl. Serv. Fish Dis. Leaflet, 19:4p. 1989. Available from Natl. Fish. Res. Cent.-Leetown, Box 700, Kearneysville, WV 25430. FR 34(2)

89-002389 Machado, J. P.; T. G. Bell; A. L. Trapp; D. L. Garling, Jr. and N. R. Kevern. EFFECT OF CARBON MONOXIDE EXPOSURE ON GAS BUBBLE DISEASE IN RAINBOW TROUT (*SALMO GAIRDNERI*). *Can. J. Fish. Aquat. Sci.* 46(1):74-80. 1989. In English with French summ. FR 34(2)

[Dep. Pathol., A522 E. Fee, Mich. State Univ., East Lansing 48824]

89-002390 Marcogliese, David James. STUDIES ON THE ZOOPLANKTON COMMUNITY OF BELEWS LAKE, NORTH CAROLINA, WITH A DISCUSSION OF THE ROLE OF CYCLOPOID COPEPODS IN TRANSMISSION OF THE FISH TAPEWORM, *BOTHRIOCEPHALUS ACHEILOGNATHI*. *Ph.D. dissertation, Wake Forest Univ.* 231p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(7):2475. 1989. Order No. DA8814709. FR 34(2)

89-002391 Mergo, John Carl, Jr. STUDIES ON THE LIFE HISTORY, DEVELOPMENT, OCCURRENCE, AND MICROHABITAT OF *MICROCOTYLE SPINICIRRUS*, (MONOGENEA: MICROCOTYLIDAE) MACCALLUM 1819. *Ph.D. dissertation, Ohio State Univ.* 265p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(8):3050. 1989. Order No. DA8820320. FR 34(2)

Aplodinotus grunniens.

89-002392 Moore, Janice. SOME ROLES OF PARASITIC HELMINTHS IN TROPHIC INTERACTIONS. A VIEW FROM NORTH AMERICA. *Rev. Chil. Hist. Nat.* 60(2):159-179. 1987. In English with Spanish summ. FR 34(2)

[Dep. Zool., Colo. State Univ., Fort Collins 80523]

89-002393 Mortensen, Donald G. and Parry D. Mothershead. OCCURRENCE OF TWO HEMIURID TREMATODES IN THE STOMACHS OF JUVENILE PACIFIC SALMON FROM THE MARINE WATERS OF SOUTHEASTERN ALASKA AND BRITISH COLUMBIA. *Trans. Am. Fish. Soc.* 117(5):452-455. 1988. FR 34(2)

[Auke Bay Lab., NMFS, Northwest & Alaska Fish. Cent., P.O. Box 210155, Auke Bay 99821] *Oncorhynchus* spp.

89-002394 Ram, Raj Narayan and A. G. Sathyanesan. A REPORT ON THE OCCURRENCE AND STRUCTURE OF CYSTIC TUMOR IN THE TESTIS OF THE TELEOST *CHANNY PUNCTATUS* (BLOCH). *Zool. Anz.* 221(3/4):183-187. 1988. FR 34(2)

[Dep. Fish. Biol., Coll. Fish., G.B. Pant Univ. Agric. & Technol., Pantnagar-263 145 Nainital (U.P.), India]

89-002395 Raymond, Jean-Christophe. [SCALE LOSS SYNDROME IN FISHES LIVING IN CAGES.] *Proc. Gulf Caribb. Fish. Inst.* 38:164-172. 1987. In French. FR 34(2)

[ADAM, B.P. 1018, 97208 Fort France Cedex, Martinique]

89-002396 Romero, Raul Castro and Hernan Baeza Kuroki. A NEW GENUS OF COPEPODA HATSCHKEIIDAE PARASITIC ON *DICROLENE NICRA* OFF THE CHILEAN COAST. *J. Nat. Hist.* 23(1):129-135. 1989. FR 34(2)

89-002398 Salte, Ragnar; Torbjorn Asgard and Knut Liestol. VITAMIN E AND SELENIUM PROPHYLAXIS AGAINST "HITRA DISEASE" IN FARMED ATLANTIC SALMON - A SURVIVAL STUDY. *Aquaculture* 75(1/2):45-55. 1988. FR 34(2)

[AKVAFORSK (Agric. Res. Council Norway, Inst. Aquacult. Res.), P.O. Box 10, N-1432 As-NLH, Norway] *Salmo salar*.

89-002399 Sanmartin Duran, M. L.; F. Caamano-Garcia; J. Fernandez Casal; J. Leiro and F. M. Ubeira. ANTHELMINTHIC ACTIVITY OF PRAZIQUANTEL, NICLOSAMIDE, NETOBIMIN AND MEBENDAZOLE AGAINST *BOTHRIOCEPHALUS SCORPII* NATURALLY INFECTING TURBOT (*SCOPHTHALMUS MAXIMUS*). *Aquaculture* 76(3/4):199-201. 1989. FR 34(2)

[Dep. Microbiol. & Parasitol., Univ. Santiago Compostela, Spain]

89-002400 Sapozhnikov, G. I. [SANGUINICOLA INERMIS INFESTATION IN CARP AND ITS CONTROL.] *Veterinariya (Mosc.)* No. 8. p. 36-38. 1988. In Russian. From Vet. Bull 58(12):7749. 1988. FR 34(2)

[Vsesoyuznyi Inst. Eksper. Vet., Moscow, USSR] *Cyprinus carpio*.

89-002401 Schram, Thomas A. and Tore Haug. ECTOPARASITES ON THE ATLANTIC HALIBUT, *HIPPOGLOSSUS HIPPOGLOSSUS* (L.), FROM NORTHERN NORWAY - POTENTIAL PESTS IN HALIBUT AQUACULTURE. *Sarsia* 73(3):213-227. 1988. FR 34(2)

[Biol. Inst., Dep. Mar. Zool. & Mar. Chem., Univ. Oslo, P.O. Box 1064, Blindern, 0316 Oslo 3, Norway]

89-002402 Smith, Charlie E. HISTOPATHOLOGY OF GAS BUBBLE DISEASE IN JUVENILE RAINBOW TROUT. *Prog. Fish-Cult.* 50(2):98-103. 1988. FR 34(2)

[U.S. Fish & Wildl. Serv., Fish Technol. Cent., 4050 Bridger Canyon Rd., Bozeman, MT 59715] *Oncorhynchus mykiss*.

89-002403 Smith, I. R.; K. W. Baker; M. A. Hayes and H. W. Ferguson. ULTRASTRUCTURE OF MALPIGHIAN AND INFLAMMATORY CELLS IN EPIDERMAL PAPILLOMAS OF WHITE SUCKERS *CATOSTOMUS COMMERSONI*. *Dis. Aquat. Org.* 6(1):17-26. 1989. FR 34(2)

[Biohazard Lab., Aquat. Biol. Sect., Water Resour. Branch, Minist. Environ., P.O. Box 213, Rexdale, ON, Canada M9W 5L1]

89-002404 Thompson, James and Mikael Hilden. POPULATION CHARACTERISTICS OF TRUE HISTIOCYTIC LYMPHOMA IN NORTHERN PIKE, *ESOX LUCIUS* L., FROM THE ALAND ISLANDS OF THE BALTIC SEA. *Aqua Fenn.* 18(1):85-92. 1988. In English with Finnish summ. FR 34(2)

[Univ. Helsinki, Dep. Limnol., Viikki, SF-00710 Helsinki, Finland]

89-002405 Wanstall, S. T.; J. S. Thomas and P. W. J. Robotham. THE PATHOLOGY CAUSED BY *POMPHORHYNCHUS LAEVIS* MULLER IN THE ALIMENTARY TRACT OF THE STONE LOACH, *NOEMACHELIUS BARBATULUS* (L.). *J. Fish Dis.*

89-002407 Wijeyaratne, M. J. S. and R. S. Gunawardene. CHEMOTHERAPY OF
ECTOPARASITE, *ERGASILUS CEYLONENSIS* OF ASIAN CICHLID, *ETROPLUS SURATENSIS*.
J. Appl. Ichthyol. 4(2):97-100. 1988. In English with French and German summ. FR 34(2)
[Univ. Kelaniya, Dep. Zool., Kelaniya, Sri Lanka]

POLLUTION

89-002408 Al-Akel, Ali S. and Mohammad J. K. Shamsi. *OREOCHROMIS NILOTICUS*
(CICHLIDAE: PERCIFORMES): BEHAVIOURAL RESPONSES IMPUTED BY THE
CONTAMINATION OF WATER WITH $HgCl_2$ AND $ZnSO_4$. J. Biol. Sci. Res. 19(Suppl):93-
956. 1988. In English with Arabic summ. FR 34(2)
[Dep. Zool., Coll. Sci., P O. Box 2455, King Saud Univ., Riyadh-11451, Saudi Arabia]

89-002409 Al-Saadi, H. A.; R. A. M. Hadi; U. Schiewer and A. H. Al-Mousawi. ON THE
INFLUENCE OF THE SEWAGE DRAINAGE FROM BASRAH CITY ON THE PHYTOPLANKTON
AND RELATED NUTRIENTS IN THE SHATT al-ARAB ESTUARY, IRAQ. Arch. Hydrobiol.
114(3):443-452. 1989. FR 34(2)
[Univ. Baghdad, Coll. Educ. Women, Dep. Biol., Baghdad, Iraq]

89-002410 Andersen, A.; G. Askaa and K. Orbaek. {DANISH FRESH WATER FISH
CONTENTS OF TRACE ELEMENTS, PCB AND CHLORINATED PESTICIDES}
Levnedsmiddelstyrelsen 53p. 1986. From U.S. Government Reports 88(21):101. 1989
Available from NTIS as PB88-232368/GAR. FR 34(2)

89-002411 Asbury, Clyde E.; Frank A. Vertucci; Mark D. Mattson and Gene E. Likens
ACIDIFICATION OF ADIRONDACK LAKES. Environ. Sci. Technol. 23(3):362-365. 1959
34(2)
[Cent. Energy & Environ. Res., Univ. Puerto Rico, Rio Piedras, Puerto Rico 00936]

89-002412 Breslin, Vincent T.; Frank J. Roethel and Victor P. Schaeperclaus
PHYSICAL AND CHEMICAL INTERACTIONS OF STABILIZED INCINERATION RESIDUE WITH
THE MARINE ENVIRONMENT. Mar. Pollut. Bull. 19(11):628-632. 1988. FR 34(2)
[Waste Manage. Inst., Mar. Sci. Res. Cent., SUNY, Stony Brook, NY 11794]

89-002413 Brocksen, Robert W. and Paul W. Emler, Jr. LIVING LAKES: AN AQUATIC
LIMING AND FISH RESTORATION DEMONSTRATION PROGRAM. Water Air Soil Pollut. 41(1-
4):85-93. 1989. FR 34(2)

89-002414 Brocksen, Robert W. and Joe Wisniewski, editors. RESTORATION OF AQUATIC AND TERRESTRIAL SYSTEMS. PROCEEDINGS OF A SPECIAL WATER QUALITY SESSION DEALING WITH THE RESTORATION OF ACIDIFIED WATERS IN CONJUNCTION WITH THE ANNUAL MEETING OF THE NORTH AMERICAN FISHERIES SOCIETY HELD IN TORONTO CANADA, 12-15 SEPTEMBER 1988. *Water Air Soil Pollut.* 41(1-4):501p. 1988. FR 34(2)
[Living Lakes, Inc., 1030 Vermont Ave., N.W., Suite 900, Washington, DC 20005]
Selected papers indexed in this issue of *Fisheries Review*.

89-002415 Brown, Mark P.; Patricia Longabucco; Michael R. Rafferty; Paul D. Robillard; Michael F. Walter and Douglas A. Haith. EFFECTS OF ANIMAL WASTE CONTROL PRACTICES ON NONPOINT-SOURCE PHOSPHORUS LOADING IN THE WEST BRANCH OF THE DELAWARE RIVER WATERSHED. *J. Soil Water Conserv.* 44(1):67-70. 1989. FR 34(2)
[Dep. Environ. Conserv., Bur. Tech. Serv. & Res., Albany, NY 12233-3502]

89-002416 Bukaveckas, Paul A. EFFECTS OF LAKE LIMING ON PHYTOPLANKTON PRODUCTION IN ACIDIC ADIRONDACK LAKES. *Water Air Soil Pollut.* 41(1-4):223-240. 1988. FR 34(2)
[Dep. Biol., Indiana Univ., Bloomington 47405]

89-002417 Buzina, R.; K. Suboticanec; J. Vukusic; J. Sapunar; K. Antonic and M. Zorica. EFFECT OF INDUSTRIAL POLLUTION ON SEAFOOD CONTENT AND DIETARY INTAKE OF TOTAL AND METHYLMERCURY. *Sci. Total Environ.* 78(1-3):45-57. 1989. FR 34(2)
[Inst. Diabetes, Endocrinol. & Metabol. Dis., "Vuk Vrhovac" Med. Fac., Univ. Zagreb 41000 Zagreb, Yugoslavia]

89-002418 Conrad, Jon M. RESIDUALS MANAGEMENT: DISPOSAL OF SEWAGE SLUDGE IN THE NEW YORK BIGHT. *Trans. Northeast Fish Wildl. Conf.* 41. p. 226. 1984. Abstract only. FR 34(2)
[Resour. Econ., Cornell Univ., Ithaca, NY]

89-002419 Corcoran, E. F.; M. S. Brown and A. D. Freay. ORGANIC POLLUTION OF THE WATER IN THE BLACK CREEK VICINITY, BISCAYNE NATIONAL PARK. *Rosenstiel School Mar. Atmos. Sci.* NPS/R/RM/SER-86. 25p. 1987. From U.S. Government Reports 88(19):110. 1988. Available from NTIS as PB88-213699/GAR. FR 34(2)

89-002420 Cossarini-Dunier, Muriel; Andree Demael; Jean Louis Riviere and Daniel Lepoint. EFFECTS OF ORAL DOSES OF THE HERBICIDE ATRAZINE ON CARP (*CYPRINUS CARPIO*). *Ambio* 17(6):401-405. 1988. FR 34(2)
[Lab. Ecotoxicol. INRA-ENVL, Ecole Natl. Vet. Lyon, B.P. 83, 69280 Marcy l'Etoile France]

89-002421 Dean, Sharon E. COASTAL RESOURCE DEGRADATION AND LOSS: HOW ON AN AQUARIUM IS RESPONDING AND OTHERS SHOULD. *AAZPA (Am. Assoc. Zool. Park Aquariums) Annu. Proc.* 1988. p. 322-335. 1988. FR 34(2)
[New England Aquarium, Boston, MA 02110]

- 89-002424 Ellis, Derek V. CASE HISTORIES IN ENVIRONMENTAL SCIENCE. *Mar. Pollut. Bull.* 19(12):656-661. 1988. FR 34(2)
[Biol. Dep., Univ. Victoria, Victoria, BC, Canada V8W 2Y2]
- 89-002425 Elwood, J. W.; R. R. Turner; R. B. Cook and M. A. Bogle. BEHAVIOR AND FISH UPTAKE OF MERCURY IN A CONTAMINATED STREAM. *Oak Ridge Y-12 Plant CONF-870937-2*. 5p. 1987. From U.S. Government Reports 88(1):141. 1988. Available from NTIS as DE87010390/GAR. FR 34(2)
- 89-002426 Environmental Protection Agency. REPORT ON THE USE OF WETLANDS FOR MUNICIPAL WASTEWATER TREATMENT AND DISPOSAL. *U.S. Environ. Protection Agency EPA/430/9-88/005*. 32p. 1987. From U.S. Government Reports 88(21):101. 1988. Available from NTIS as PB88-233481/GAR. FR 34(2)
- 89-002427 Evers, Erik H. G.; Karin C. M. Ree and Kees Olie. SPATIAL VARIATIONS AND CORRELATIONS IN THE DISTRIBUTION OF PCDDs, PCDFs AND RELATED COMPOUNDS IN SEDIMENTS FROM THE RIVER RHINE - WESTERN EUROPE. *Chemosphere* 17(12):2271-2288. 1988. FR 34(2)
[Lab. Environ. & Toxicol. Chem., Univ. Amsterdam, Nieuwe Achtergracht 166, 1018 WJ Amsterdam, Netherlands]
- 89-002428 Fenner, Kenneth A. and Thomas E. Davenport. LAKE MICHIGAN TOXIC POLLUTION CONTROL/REDUCTION STRATEGY. In: *Proceedings of the Symposium on The Great Lakes: Living with North America's Inland Waters*. David H. Hickcox, editor. p. 221-226. 1988. FR 34(2)
[U.S. Environ. Protection Agency, Chicago, IL 60604]
- 89-002429 Finney, Bruce P. and Chih-An Huh. HISTORY OF METAL POLLUTION IN THE SOUTHERN CALIFORNIA BIGHT: AN UPDATE. *Environ. Sci. Technol.* 23(3):294-303. 1989. FR 34(2)
[Dep. Geol., Duke Univ., Mar. Lab., Beaufort, NC 28516]
- 89-002430 Ford, T. E. and Robert J. Naiman. GROUNDWATER-SURFACE WATER RELATIONSHIPS IN BOREAL FOREST WATERSHEDS: DISSOLVED ORGANIC CARBON AND INORGANIC NUTRIENT DYNAMICS. *Can. J. Fish. Aquat. Sci.* 46(1):41-49. 1989. In English with French summ. FR 34(2)
[Harvard Univ., Div. Appl. Sci., Lab. Microbial Ecol., 40 Oxford St., Cambridge, MA 02138]
- 89-002431 Geraci, A. L.; G. Larosa and L. Delre. REMOTE SENSING INVESTIGATION OF THE OIL SPILL IN THE MESSINA STRAIT, ITALY. *Dep. Eng. Catania Univ. (Italy)* 6. 1986. From U.S. Government Reports 87(24):177. 1987. Available from NTIS as N87-28131/7/GAR. FR 34(2)
- 89-002432 Goda, Takeshi. MONITORING AND MEASUREMENT OF WATER QUALITY PARAMETERS. *Int. J. Water Resour. Dev.* 4(4):270-275. 1988. FR 34(2)
[Dep. Civil Eng., Setsunan Univ., 17-8 Ikedanaka-machi, Neyagawa, Osaka 572, Japan]

NEUTRAL AND THREE ACIDIFIED LAKES IN MAINE. *Can. J. Fish. Aquat. Sci.* 46(3):440-446. 1989. In English with French summ. FR 34(2)

[U.S. Fish & Wildl. Serv., Natl. Fish. Contam. Res. Cent., Field Res. Stn., RR 1, Box 295, Yankton, SD 57078]

89-002435 Hembach, D. G.; H. S. Greening and G. J. Filbin. MARYLAND SYNOPTIC STREAM CHEMISTRY SURVEY: ESTIMATING THE NUMBER AND DISTRIBUTION OF STREAMS AFFECTED BY OR AT RISK FROM ACIDIFICATION. *Int. Sci. Technol. Inc. PPRP/AD-88-2*. 217p. 1988. From U.S. Government Reports 88(17):113. 1988. Available from NTIS as PB88-213996/GAR. FR 34(2)

89-002436 Hendrey, George R., editor. EARLY BIOTIC RESPONSES TO ADVANCING LAKE ACIDIFICATION - ACID PRECIPITATION SERIES - VOLUME 6. *Butterworth Publ.* 173p. 1984. FR 34(2)

[Terrestrial & Aquat. Ecol. Div., Brookhaven Natl. Lab., Upton, NY] Selected chapter indexed in this issue of *Fisheries Review*.

89-002437 Henriksen, Arne and David F. Brakke. INCREASING CONTRIBUTIONS OF NITROGEN TO THE ACIDITY OF SURFACE WATERS IN NORWAY. *Water Air Soil Pollut.* 42(1-2):183-201. 1988. FR 34(2)

[Norwegian Inst. Water Res., P.O.B. 33, Blindern, 0313 Oslo 3, Norway]

89-002438 Hindar, Atle and Bjorn Olav Rosseland. LIMING ACIDIC WATERS IN NORWAY: NATIONAL POLICY AND RESEARCH AND DEVELOPMENT. *Water Air Soil Pollut.* 41(1-4):17-24. 1988. FR 34(2)

[Norwegian Inst. Water Res., Regional Office-Sorlandet, Televeien 1, N-4890 Grimstad, Norway]

89-002439 Jenkins, D. and B. H. Olson, editors. WATER AND WASTEWATER MICROBIOLOGY. PROCEEDINGS OF THE IAWPRC CONFERENCE HELD IN NEWPORT BEACH, CALIFORNIA, U.S.A., 8-11 FEBRUARY 1988. *Water Sci. Technol.* 20(11/12):540p. 1988. FR 34(2)

[Dep. Civil Eng., Univ. Calif., Berkeley]

89-002440 Kelso, John R. M. and John M. Gunn. RESPONSES OF FISH COMMUNITIES TO ACIDIC WATERS IN ONTARIO. In: *Early Biotic Responses to Advanced Lake Acidification*. George R. Hendrey, editor. p. 105-115. 1984. FR 34(2)

[Dep. Fish & Oceans, Great Lakes Biolimnol. Lab., Sault St. Marie, ON, Canada]

89-002441 Khalanski, Michel. [THERMAL DISCHARGES INTO THE COASTAL AREA: OVERVIEW OF RESULTS FROM THE POWER PLANT AT GRAVELINES.] *Oceanis* 14(5):579-593. 1988. In French with English summ. FR 34(2)

[Electric. France, Dep. Environ. Aquat. & Atmos., 6 Quai Watier, 78401 Chatou Cedex, France]

89-002444 Mackey, H. E. COMPREHENSIVE COOLING WATER STUDY, VOLUME 4 WETLANDS. FINAL REPORT. *Savannah River Lab. (Aiken, SC) DP-1739-4*. 170p. 1987. From U.S. Government Reports 88(24):139. 1988. Available from NTIS as DE89010403/GAR. FR 34(2)

89-002445 Martin, A.; G. Suarez and E. Perigo. [STUDY ON THE DEOXYGENATION REACTION KINETICS OF SUGAR MILL WASTES.] *Rev. Cubana Invest. Pesq.* 7(4):93-105. 1982. In Spanish with English summ. FR 34(2)

89-002446 McMurtry, Michael J.; Donna L. Wales; Wolfgang A. Scheider; Gail L. Beggs and Patricia E. Dimond. RELATIONSHIP OF MERCURY CONCENTRATIONS IN LAKE TROUT (*SALVELINUS MAYAYCUSH*) AND SMALLMOUTH BASS (*MICROPTERUS DOLOMIEUI*) TO THE PHYSICAL AND CHEMICAL CHARACTERISTICS OF ONTARIO LAKES. *Can. J. Fish. Aquat. Sci.* 46(3):426-434. 1989. In English with French summ. FR 34(2)
[Lake Simcoe Fish. Assess. Unit, Ontario Minist. Nat. Resour., R.R. 2, Sutton West, ON, Canada L0E 1R0]

89-002447 Metz, Simone and John H. Trefry. TRACE METAL CONSIDERATIONS IN EXPERIMENTAL OIL ASH REEFS. *Mar. Pollut. Bull.* 19(11):633-636. 1988. FR 34(2)
[Dep. Oceanogr. & Ocean Eng., Fla. Inst. Technol., Melbourne 32901]

89-002448 Mills, Kenneth H. FISH POPULATION RESPONSES TO EXPERIMENTAL ACIDIFICATION OF A SMALL ONTARIO LAKE. In: *Early Biotic Responses to Advanced Lake Acidification*. George R. Hendrey, editor. p. 117-131. 1984. FR 34(2)
[Dep. Fish. & Oceans, Freshwater Inst., Winnipeg, MB, Canada]

89-002449 Myers, Carl F. and Hal Wise. NON-POINT SOURCES OF WATER POLLUTION: A NEW LAW FOR AN OLD PROBLEM. *West. Wildlands* 14(4):9-12. 1989. FR 34(2)

89-002450 Neely, Robert K. and James L. Baker. NITROGEN AND PHOSPHORUS DYNAMICS AND THE FATE OF AGRICULTURAL RUNOFF. In: *Northern Prairie Wetlands*. Arnold van der Valk, editor. p. 92-131. 1989. FR 34(2)
[Dep. Biol., East. Mich. Univ., Ypsilanti 48197]

89-002451 Nyberg, Per and Eva Thornehof. OPERATIONAL LINING OF SURFACE WATER IN SWEDEN. *Water Air Soil Pollut.* 41(1-4):3-16. 1988. FR 34(2)
[Tage Erlander Lab., Box 51, S-684 01 Munkfors, Sweden]

89-002452 Packard, F. A.; E. L. Skinner and L. A. Fuste. EFFECTS OF COAL MINE DRAINAGE ON THE WATER QUALITY OF SMALL RECEIVING STREAMS IN WASHINGTON 1975-77. *U.S. Geol. Surv. USGS/WRD/WRI-85-4274*. 74p. 1988. From U.S.

- 89-002454 Raitaniemi, Jari; Martti Rask and Pekka J. Vuorinen. THE GROWTH OF PERCH *PERCA FLUVIATILIS* L., IN SMALL FINNISH LAKES AT DIFFERENT STAGES OF ACIDIFICATION. *Ann. Zool. Fenn.* 25(3):209-219. 1988. FR 34(2)
[Rask: Lammi Biol. Stn., SF-16900 Lammi, Finland]
- 89-002455 Rathbun, R. E.; D. W. Stephens; D. J. Shultz and D. Y. Tai. FATE OF ACETONE IN AN OUTDOOR MODEL STREAM IN SOUTHERN MISSISSIPPI, U.S.A. *J. Hydro. (Amst.)* 104(1-4):181-209. 1988. FR 34(2)
[U.S. Geol. Surv., 5293 Ward Rd., Arvada, CO 80002]
- 89-002456 Reed, M.; C. Turner; M. Spaulding, K. Jayko and D. Dorson. EVALUATION OF SATELLITE-TRACKED SURFACE DRIFTING BUOYS FOR SIMULATING THE MOVEMENT OF SPILLED OIL IN THE MARINE ENVIRONMENT. VOLUME 1. EXECUTIVE SUMMARY. *Appl. Sci. Assoc., Inc.* OCS/MMS-87/G071. 19p. 1988. From U.S. Government Reports 88(21):59. 1988. Available from NTIS as PB88-226048/GAR. FR 34(2)
- 89-002457 Reish, D. J. (POLLUTION) EFFECTS ON SALTWATER ORGANISMS. *J. Water Pollut. Control Fed.* 60(6):1065-1073. 1988. From Deep-Sea Res. Part B Oceanogr. Lit. Rev. 35(12):88:7093. 1988. FR 34(2)
[Dep. Biol., Calif. State Univ., Long Beach 90840]
- 89-002458 Rosseland, Bjorn Olav and Atle Hindar. LIMING OF LAKES, RIVERS AND CATCHMENTS IN NORWAY. *Water Air Soil Pollut.* 41(1-4):165-188. 1988. FR 34(2)
[Norwegian Inst. Water Res., P.O. Box 33-Blindern, N-0313 Oslo 3, Norway] *Salmo trutta* and *S. salar*.
- 89-002459 Schreiber, R. Kent. COOPERATIVE FEDERAL-STATE LIMING RESEARCH OF SURFACE WATERS IMPACTED BY ACIDIC DEPOSITION. *Water Air Soil Pollut.* 41(1-4):53-73. 1988. FR 34(2)
[Natl. Ecol. Res. Cent., U.S. Fish & Wildl. Serv., Box 705, Kearneysville, WV 25430]
- 89-002460 Sloan, Ronald; Patrick O'Keefe; Lawrence Skinner; Carol Moyer and David Hilker. DIOXIN DIBENZOFURAN AND PCB DISTRIBUTION AS REFLECTED BY ATLANTIC COAST STRIPED BASS SAMPLES. *Trans. Northeast Fish Wildl. Conf.* 41. p. 230. 1984. Abstract only. FR 34(2)
[Dep. Environ. Conserv., Div. Fish & Wildl., Albany, NY 12233]
- 89-002461 Spiller, Judith and Cynthia Hayden. RADWASTE AT SEA: A NEW ERA OF POLARIZATION OR A NEW BASIS FOR CONSENSUS? *Ocean Dev. Int. Law* 19(5):345-360. 1988. FR 34(2)

89-002463 Strachan, William M. J. TEST SYSTEMS AND EXPOSURE IN THE AQUATIC ENVIRONMENT. *Ambio* 17(6):394-397. 1988. FR 34(2)

[Canada Cent. Inland Waters, 867 Lakeshore Rd., Burlington, ON, Canada L7R 4A6]

89-002464 Strobel, Charles J.; John H. Gentile; Steven C. Schimmel; R. Scott Carr; John W. Williams and David Redford. PROPOSED BIOLOGICAL TESTING METHODS FOR THE UNITED STATES INCINERATION-AT-SEA RESEARCH PROGRAM. *Mar. Pollut. Bull.* 19(11):605-610. 1988. FR 34(2)

[Sci. Appl. Int. Corp., Environ. Res. Lab., S. Ferry Rd., Narragansett, RI 02882]

89-002465 Thomann, R. V.; J. P. Connolly and N. A. Thomas. GREAT LAKES ECOSYSTEM - MODELING OF THE FATE OF PCBs (POLYCHLORINATED BIPHENYLS). *Dep. Environ. Eng. (Manhattan Coll.) EPA/600/D-87/325*. 55p. 1987. From U.S. Government Reports 88(5):101. 1988. Available from NTIS as PB88-124102/GAR. FR 34(2)

89-002466 Tonnessen, Kathy A. POTENTIAL FOR AQUATIC ECOSYSTEM ACIDIFICATION IN THE SIERRA NEVADA, CALIFORNIA. In: *Early Biotic Responses to Advanced Lake Acidification*. George R. Hendrey, editor. p. 147-169. 1984. FR 34(2)

[Lawrence Berkeley Lab., Univ. Calif., Berkeley 94720]

89-002467 Waldichuk, Michael. INCINERATION AT SEA AND ARTIFICIAL REEFS: OPTIONS FOR MARINE WASTE DISPOSAL. *Mar. Pollut. Bull.* 19(11):589-594. 1988. FR 34(2)

[Dep. Fish. & Oceans, Biol. Sci. Branch, 4160 Marine Dr., West Vancouver, BC, Canada V7V 1N6]

89-002468 Waldichuk, Michael, editor. SELECTED PAPERS FROM THE SEVENTH INTERNATIONAL OCEAN DISPOSAL SYMPOSIUM IN WOLFVILLE, NOVA SCOTIA, CANADA ON 21-25 SEPTEMBER 1987. *Mar. Pollut. Bull.* 19(11):589-646. 1988. FR 34(2)

[Dep. Fish. & Oceans, Biol. Sci. Branch, 4160 Marine Dr., West Vancouver, BC, Canada V7V 1N6] Selected papers indexed in this issue of *Fisheries Review*.

89-002469 Wall, G. J.; E. A. Pringle and W. T. Dickinson. ASSESSMENT OF AGRICULTURAL NONPOINT SOURCE POLLUTION POTENTIALS IN THE CANADIAN GREAT LAKES BASIN. In: *Proceedings of the Symposium on The Great Lakes: Living with North America's Inland Waters*. David H. Hickcox, editor. p. 179-188. 1988. FR 34(2)

[Agric. Canada, Dep. Land Resour. Sci., Univ. Guelph, Guelph, ON, Canada N1G 2W1]

89-002472 Weis, Judith S. and Peddrick Weis. TOLERANCE AND STRESS IN A POLYCHAETE, *Paraprionospio pinnatifida*, IN A CONTAMINATED ENVIRONMENT: THE CASE OF THE MUMMICHOG. *Bioscience* 39(2):89-95. 1989. FR 34(2)
[Dep. Biol. Sci., Rutgers Univ., Newark, NJ 07102] *Fundulus heteroclitus* in New York and New Jersey

89-002473 Wiener, James G.; Paul J. Rago and Joseph M. Eilers. SPECIES COMPOSITION OF FISH COMMUNITIES IN NORTHERN WISCONSIN LAKES: RELATION TO pH. In: *Biotic Responses to Advanced Lake Acidification*. George R. Hendrey, editor. p. 1-10. 1984. FR 34(2)
[Columbia Natl. Fish. Res. Lab., U.S. Fish & Wildl. Serv., La Crosse, WI]

89-002474 Young, C. Edwin and James S. Shortle. BENEFITS AND COSTS OF AGRICULTURAL NONPOINT-SOURCE POLLUTION CONTROLS: THE CASE OF ST. AUGUSTINE BAY. *J. Soil Water Conserv.* 44(1):64-67. 1989. FR 34(2)
[Commodity Econ. Div., Econ. Res. Serv., U.S. Dep. Agric., Washington, DC 20250-4788]

FISH KILLS

89-002475 Pavela, John S. and Mark E. Chittenden, Jr. SHARP REDUCTIONS IN THE ABUNDANCE OF FISHES AND BENTHIC MACROINVERTEBRATES IN THE GULF OF MEXICO ASSOCIATED WITH HYPOXIA. *Trans. Northeast Fish Wildl. Conf.* 41. p. 227-232. 1987. Abstract only. FR 34(2)
[Dep. Wildl. & Fish. Sci., Tex. A&M Univ., College Station 77843]

TOXICOLOGY; BIOASSAYS

89-002476 Athey, Leslie A.; John M. Thomas; William E. Miller and Jack Q. Thompson. EVALUATION OF BIOASSAYS FOR DESIGNING SEDIMENT CLEANUP STRATEGIES AT A WOOD TREATMENT SITE. *Environ. Toxicol. Chem.* 8(3):223-230. 1989. FR 34(2)
[Thomas: Pac. Northwest Lab., Richland, WA 99352]

89-002477 Bagarinao, Teodora; Russell D. Vetter and George N. Somero. SALT TOLERANCE AND DETOXIFICATION IN SHALLOW-WATER MARINE FISHES. *Am. Zool.* 28(4):104A. 1988. Abstract only. FR 34(2)
[Mar. Biol. Res. Div., Schripps Inst. Oceanogr., La Jolla, CA] *Gillithys mirabilis*, *Fundulus parvipinnis*.

Environ. Assoc., Inc. CONF-870387-2. 9p. 1987. From U.S. Government Reports 87(20):145. 1987. Available from NTIS as DE87007665/GAR. FR 34(2)

89-002480 Bakke, T. LONG TERM EFFECTS OF OIL ON MARINE BENTHIC COMMUNITIES IN ENCLOSURES. *Norsk Inst. Vannforskning NIVA-O-82007*. 250p. 1985. From U.S. Government Reports 87(24):177. 1987. Available from NTIS as DE87752501/GAR. FR 34(2)

89-002481 Benedetti, L.; A. G. Albano and L. Mola. HISTOMORPHOLOGICAL CHANGES IN SOME ORGANS OF THE BROWN BULLHEAD, *ICTALURUS NEBULOSUS* LESLEUR, FOLLOWING SHORT- AND LONG-TERM EXPOSURE TO COPPER. *J. Fish Biol.* 34(2):273-283. 1989. FR 34(2)

[Dip. Biol. Anim., Univ. Modena, via Berengario 14, 41100 Modena, Italy]

89-002482 Bills, T. D.; L. L. Marking; V. K. Dawson and G. E. Howe. EFFECTS OF ORGANIC MATTER AND LOADING RATES OF FISH ON THE TOXICITY OF CHLORAMINE-T. *U.S. Fish Wildl. Serv. Invest. Fish Control No. 97*. 4p. 1988. Available from Publ. Unit, U.S. Fish & Wildl. Serv., Washington, DC 20240. FR 34(2)

[U.S. Fish & Wildl. Serv., Natl. Fish. Res. Cent., P.O. Box 818, LaCrosse, WI 54602-0818] *Pimephales promelas*.

89-002483 Bills, T. D.; L. L. Marking; V. K. Dawson and J. J. Rach. EFFECTS OF ENVIRONMENTAL FACTORS ON THE TOXICITY OF CHLORAMINE-T TO FISH. *U.S. Fish Wildl. Serv. Invest. Fish Control No. 96*. 6p. 1988. Available from Publ. Unit, U.S. Fish & Wildl. Serv., Washington, DC 20240. FR 34(2)

[U.S. Fish & Wildl. Serv., Natl. Fish. Res. Cent., P.O. Box 818, LaCrosse, WI 54602-0818] *Oncorhynchus mykiss*, *Ictalurus punctatus*, and *Pimephales promelas*.

89-002484 Borg, Kathleen; James Gottofrey and Hans Tjalve. EFFECTS OF SOME CHELATING AGENTS ON THE UPTAKE AND DISTRIBUTION OF $^{201}\text{Hg}^{2+}$ IN THE BROWN TROUT (*SALMO TRUTTA*): STUDIES ON ETHYL- AND ISOPROPYLXANTHATE, DIETHYL- AND DIISOPROPYLDITHIOPHOSPHATE, DIMETHYL- AND DIETHYLDITHIOCARBAMATE AND PYRIDINETHIONE. *Arch. Toxicol.* 62(5):387-391. 1988. FR 34(2)

[Dep. Pharmacol. & Toxicol., Fac. Vet. Med., Swedish Univ. Agric. Sci., Box 573, S-751 23 Uppsala, Sweden]

89-002485 Bradbury, Steven P.; Tala R. Henry; Gerald J. Niemi; Richard W. Carlson and Virginia M. Snarski. USE OF RESPIRATORY-CARDIOVASCULAR RESPONSES OF RAINBOW TROUT (*SALMO GAIRDNERI*) IN IDENTIFYING ACUTE TOXICITY SYNDROMES IN FISH. PART 3. POLAR NARCOTICS. *Environ. Toxicol. Chem.* 8(3):247-261. 1989. FR 34(2)

[Environ. Res. Lab., U.S. Environ. Protection Agency, Duluth, MN 55804]

89-002486 Carey, John H.; Michael E. Fox and Larry P. Schleen. PHOTODEGRADATION OF THE LAMPICIDE 3-TRIFLUOROMETHYL-4-NITROPHENOL (TFM). 2. FIELD CONFIRMATION OF DIRECT PHOTOLYSIS AND PERSISTENCE OF FORMULATION

RAINBOW TROUT (*SALMO GAIRDNERI*). *Can. J. Fish. Aquat. Sci.* 46(1):33-40. 1989. FR 34(2)
English with French summ. FR 34(2)
[Oak Creek Lab. Biol., Dep. Fish. & Wildl., Oreg. State Univ., Corvallis 97331]

89-002488 Cuvin, M. L. A. and R. W. Furness. UPTAKE AND ELIMINATION OF INORGANIC MERCURY AND SELENIUM BY MINNOWS *PHOXINUS PHOXINUS*. *Aquat. Toxicol. (Amst.)* 13(3):205-216. 1988. FR 34(2)
[Furness: Dep. Zool., Univ. Glasgow, Glasgow G12 8QQ, Scotland]

89-002489 D'Itri, F. M. and J. P. Giesy. EFFECTS OF MATERNAL EXPOSURE OF RAINBOW TROUT TO 2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD) ON REPRODUCTION. *Inst. Water Resour. Mich. State Univ. USGS/G-1024-04*. 41p. 1986. From U.S. Government Reports 87(14):114-115. 1987. Available from NTIS as PB87-172631/GAR FR 34(2)
Oncorhynchus mykiss.

89-002490 Davin, William T., Jr.; Christopher C. Kohler and Donald R. Tindall. CIGUATERA TOXINS ADVERSELY AFFECT PISCIVOROUS FISHES. *Trans. Am. Fish. Soc.* 117(4):374-384. 1988. FR 34(2)
[Fish. Res. Lab. & Dep. Zool., South. Ill. Univ., Carbondale 62901] *Sphyrna barracuda*, *Epinephelus fulvus*, *Lutjanus apodus*, *L. mahogoni*, and *Micropterus salmoides*.

89-002491 De Kock, A. C. and D. A. Lord. KINETICS OF THE UPTAKE AND ELIMINATION OF POLYCHLORINATED BIPHENYLS BY AN ESTUARINE FISH SPECIES (*RHABDOSARGUS HOLUBI*) AFTER AQUEOUS EXPOSURE. *Chemosphere* 17(12):2381-2390. 1988. FR 34(2)
[Dep. Oceanogr., Univ. Port Elizabeth, P.O. Box 1600, Port Elizabeth 6000, South Africa]

89-002492 Deneer, J. W. ; T. L. Sinnige; W. Seinen and J. L. M. Hermens. A QUANTITATIVE STRUCTURE - ACTIVITY RELATIONSHIP FOR THE ACUTE TOXICITY OF SOME EPOXY COMPOUNDS TO THE GUPPY. *Aquat. Toxicol. (Amst.)* 13(3):195-204. 1988. FR 34(2)
[Dep. Vet. Pharmacol., Pharm. & Toxicol., Univ. Utrecht, P.O. Box 80176, 3508 TB Utrecht, Netherlands] *Poecilia reticulata*.

89-002493 Dureza, Lourdes Arcinue. TOXICITY AND LESIONS IN THE GILLS OF *TILAPIA NILOTICA* FRY AND FINGERLINGS EXPOSED TO FORMALIN, FURANACE, POTASSIUM PERMANGANATE AND MALACHITE GREEN. *Ph.D. dissertation, Auburn Univ.* 79p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(9):3628. 1989. Order No. DA8925767. FR 34(2)

89-002494 Dycus, D. L. and D. R. Lowery. PCB (POLYCHLORINATED BIPHENYLS) CONCENTRATIONS IN WILSON RESERVOIR CATFISH, 1985. *Tenn. Valley Authority TVA/ONRED/AWR-86/57*. 44p. 1986. From U.S. Government Reports 87(13):143. 1987. Available from NTIS as DE87900332/GAR. FR 34(2)
Ictalurus spp. in Tennessee.

M. Clark. EFFECTS OF WATER HARDNESS AND SALINITY ON THE ACUTE TOXICITY AND UPTAKE OF FENVALERATE BY BLUEGILL (*LEPOMIS MACROCHIRUS*). *Bull. Environ. Contam. Toxicol.* 42(3):359-366. 1989. FR 34(2)

[Coats: Dep. Entomol., Dep. Anim. Ecol., Iowa State Univ., Ames 50011]

89-002497 Eisler, Ronald. TIN HAZARDS TO FISH, WILDLIFE, AND INVERTEBRATES: A SYNOPTIC REVIEW. *U.S. Fish Wildl. Serv. Biol. Rep.* 85(1.15):83p. 1989. Available from Sect. Inform. Manage., Patuxent Wildl. Res. Cent., U.S. Fish & Wildl. Serv., Laurel, MD 20708. FR 34(2)

[U.S. Fish & Wildl. Serv., Patuxent Wildl. Res. Cent., Laurel, MD 20708]

89-002498 Fawell, J. K. and S. Hunt. ENVIRONMENTAL TOXICOLOGY: ORGANIC POLLUTANTS. *Ellis Horwood, Ltd.* 440p. 1988. FR 34(2)

89-002499 Gobas, Frank A. P. C.; Kathryn E. Clark; Wan Ying Shiu and Donald Mackay. BIOCONCENTRATION OF POLYBROMINATED BENZENES AND BIPHENYLS AND RELATED SUPERHYDROPHOBIC CHEMICALS IN FISH: ROLE OF BIOAVAILABILITY AND ELIMINATION INTO THE FECES. *Environ. Toxicol. Chem.* 8(3):231-245. 1989. FR 34(2)

[Great Lakes Inst., Univ. Windsor, Windsor, ON, Canada N9B 3P4] *Poecilia reticulata*.

89-002500 Gupta, B. N.; A. K. Mathur; Chitra Agarwal and A. Singh. *IN VITRO* EFFECT OF LINEAR ALKYL BENZENE SULFONATE (LAS) ON SOME ENZYMES IN LIVER AND GILLS OF THE TELEOST *CHANNA PUNCTATUS*. *Bull. Environ. Contam. Toxicol.* 42(3):375-381. 1989. FR 34(2)

[Ind. Toxicol. Res. Cent., P.B. No. 80, Lucknow-226 001 India]

89-002501 Haux, Carl and Lars Forlin. BIOCHEMICAL METHODS FOR DETECTING EFFECTS OF CONTAMINANTS ON FISH. *Ambio* 17(6):376-380. 1988. FR 34(2)

[Dep. Zoophysiol., Univ. Gothenburg, P.O. Box 25059, S-400 31 Gothenburg, Sweden]

89-002502 Hobson, James F. and Wesley J. Birge. ACCLIMATION-INDUCED CHANGES IN TOXICITY AND INDUCTION OF METALLOTHIONEIN-LIKE PROTEINS IN THE FATHEAD MINNOW FOLLOWING SUBLETHAL EXPOSURE TO ZINC. *Environ. Toxicol. Chem.* 8(2):157-169. 1989. FR 34(2)

[Rhône-Poulenc Ag Co., P.O. Box 12014, Research Triangle Park, NC 27709] *Pimephales promelas*.

89-002503 Hose, Jo Ellen; Dean Di Fiore; Heidi S. Parker and Terry Sciarrotta. TOXICITY OF CHLORINE DIOXIDE TO EARLY LIFE STAGES OF MARINE ORGANISMS. *Bull. Environ. Contam. Toxicol.* 42(3):315-319. 1989. FR 34(2)

[VANTUNA Res. Group, Dep. Biol., Occidental Coll., 1600 Campus Rd., Los Angeles, CA 90041] *Paralabrax clathratus*.

Usna Varanasi. CONTAMINANT EFFECTS ON OVARIAN DEVELOPMENT IN ENGLISH SOLE
(*PAROPHRYX VETULUS*) FROM PUGET SOUND, WASHINGTON. *Can. J. Fish. Aquat. Sci.*
45(12):2133-2146. 1988. In English with French summ. FR 34(2)

[Environ. Conserv., Northwest Alaska Fish. Cent., NMFS, NOAA, Seattle, WA 98112]

89-002506 Kasokat, Thomas; Roland Nagel and Klaus Ulrich. METABOLISM OF
CHLOROBENZENE AND HEXACHLOROBENZENE BY THE ZEBRA FISH, *BRACHYDANIO
RERIO*. *Bull. Environ. Contam. Toxicol.* 42(2):254-261. 1989. FR 34(2)

[Dep. Zool., Johannes Gutenberg-Univ. Saarst. 21, D-6500 Mainz, West Germany]

89-002507 Knezovich, John P.; Michael P. Lawton and Laura S. Inouye
BIOACCUMULATION AND TISSUE DISTRIBUTION OF A QUATERNARY AMMONIUM
SURFACTANT IN THREE AQUATIC SPECIES. *Bull. Environ. Contam. Toxicol.* 42(1):87-93
1989. FR 34(2)

[Environ. Sci. Div., Lawrence Livermore Natl. Lab., Livermore, CA 94550]

89-002508 Kuehl, D. W.; P. M. Crook and A. R. Batterman. UPTAKE AND DEPURATION
STUDIES OF PCDDs AND PCDFs IN FRESHWATER FISH. *Environ. Res. Lab. (Duluth
Minn.) EPA/600/J-86/318*. 6p. 1986 From U.S. Government Reports 87(14):116-117. 1987
Available from NTIS as PB87-177366/GAR. FR 34(2)

89-002509 Kumar, Vinod and Dilip Mukherjee. PHENOL AND SULFIDE INDUCED CHANGES
IN THE OVARY AND LIVER OF SEXUALLY MATURING COMMON CARP, *CYPRINUS CARPIO*
Aquat. Toxicol. (Amst.) 13(1):53-60. 1988. FR 34(2)

[Mukherjee; Dep. Zool., Univ. Kalyani, Kalyani 741 235, West Bengal, India]

89-002510 Kusher, David Irwin. PHYSIOLOGICAL EFFECTS OF CADMIUM ON THE
BLUEGILL, *LEPOMIS MACROCHIRUS*. *Ph.D. dissertation, Univ. Ga.* 124p. 1988 From Diss
Abstr. Int. B Sci. Eng. 49(9):3618. 1989. Order No. DA8823814. FR 34(2)

89-002511 Landner, Lars. HAZARDOUS CHEMICALS IN THE ENVIRONMENT - SOME NEW
APPROACHES TO ADVANCED ASSESSMENT. *Ambio* 17(6):360-366. 1988. FR 34(2)

[Swedish Environ. Res. Group, Gotgatan 35, S-116 21 Stockholm, Sweden]

89-002512 Lange, Gary M. EFFECT OF METHYLMERCURY ON THE REPRODUCTIVE
BEHAVIORS OF THE CONVICT CICHLID (*CICHLASOMA NIGROFASCIATUM*). *M.S. thesis*
Cent. Mich. Univ. 62p. 1988. From Masters Abstr. Int. 27(1):71. 1989. Order No.
MA1334198. FR 34(2)

89-002513 Larsson, A.; C. Haux and M. L. Sjoebck. [TOXIC EFFECTS OF METALS ON
FISH. EVALUATION OF PHYSIOLOGICAL TEST METHODS.] *Natl. Swedish Environ
Protection Board SNV-3166*. 68p. 1986. In Swedish. From U.S. Government Report
88(24):139. 1988. Available from NTIS as DE88752945/GAR. FR 34(2)

REACTIONS IN VENDOR (COREGONUS ALBULA L.). *Comp. Biochem. Physiol. C* Cc-a. *Pharmacol. Toxicol.* 92(1):51-54. 1989. FR 34(2)
[Univ. Kuopio, Dep. Physiol., P.O.B. 6, SF-70211 Kuopio, Finland]

89-002516 Ludicello, S. and K. J. O'Hara. USE AND DISPOSAL OF NONBIODEGRADABLE PLASTICS IN THE MARINE AND GREAT LAKES ENVIRONMENTS. *Cent. Environ. Educ. (Washington, D.C.)* EPA/560/1-87/010. 152p. 1986. From U.S. Government Reports 87(16):109. 1987. Available from NTIS as PB87-183406/GAR. FR 34(2)

89-002517 Matthiessen, Peter; Graham F. Whale; Richard J. Rycroft and David A. Sheahan. THE JOINT TOXICITY OF PESTICIDE TANK-MIXES TO RAINBOW TROUT. *Aquat. Toxicol. (Amst.)* 13(1):61-76. 1988. FR 34(2)
[MAFF, Dir. Fish. Res., Fish. Lab., Remembrance Ave., Burnham-on-Crouch, Essex CV9 8HA, England] *Oncorhynchus mykiss*.

89-002518 Mayer, Foster L., Jr. and Mark R. Eilersieck. EXPERIENCES WITH SINGLE-SPECIES TESTS FOR ACUTE TOXIC EFFECTS ON FRESHWATER ANIMALS. *Ambio* 17(6):357-375. 1988. FR 34(2)
[Environ. Res. Lab., U.S. Environ. Protection Agency, Sabine Island, Gulf Breeze, FL 32561] Data for 26 species.

89-002519 Mayes, M. A.; T. J. Shafer and M. G. Barron. CRITICAL EVALUATION OF THE FATHEAD MINNOW 7-DAY STATIC RENEWAL TEST. *Chemosphere* 17(11):2243-2252. 1989. FR 34(2)
[Mammalian & Environ. Toxicol., 1702 Bldg., Dow Chem. Co., Midland, MI 48674] *Pimephales promelas*.

89-002520 McGeachy, S. M. and D. G. Dixon. THE IMPACT OF TEMPERATURE ON THE ACUTE TOXICITY OF ARSENATE AND ARSENITE TO RAINBOW TROUT (*SALMO GAIARDNERI*). *Ecotoxicol. Environ. Saf.* 17(1):86-93. 1989. FR 34(2)
[Dixon: Dep. Biol., Univ. Waterloo, Waterloo, ON, Canada N2L 3G1]

89-002521 Metcalfe, C. D.; V. W. Cairns and J. D. Fitzsimons. EXPERIMENTAL INDUCTION OF LIVER TUMOURS IN RAINBOW TROUT (*SALMO GAIARDNERI*) BY CONTAMINATED SEDIMENT FROM HAMILTON HARBOUR, ONTARIO. *Can. J. Fish. Aquat. Sci.* 45(12):2161-2167. 1988. In English with French summ. FR 34(2)
[Environ. & Resour. Studies, Trent Univ., Peterborough, ON, Canada K9J 7B8]

89-002522 Mueller, C. S.; G. J. Ramelow and J. N. Beck. MERCURY IN THE CALCASIEU RIVER/LAKE COMPLEX, LOUISIANA. *Bull. Environ. Contam. Toxicol.* 42(1):71-80. 1989. FR 34(2)
[Beck: Dep. Chem., McNeese State Univ., Lake Charles, LA 70609-0455] *Micropogonias undulatus*, *Brevoortia patronus*, *Leiostomus xanthurus*, and *Ictalurus furcatus*.

ACCUMULATION ON THE EGG AND LARVA OF MEDAKA ORYZIAS LATIPES.] *Bull. Jpn. Soc. Sci. Fish.* 54(12):2153-2158. 1988. In Japanese with English summ. FR 34(2)
[Dep. Fish., Fac. Agric., Kyushu Univ. 46-04, Hakozaki, Higashi, Fukuoka 812, Japan]

89-002525 Nakagawa, Hisaki and Shinya Ishio. [ASPECTS OF ACCUMULATION OF CADMIUM ION IN THE EGG OF MEDAKA ORYZIAS LATIPES.] *Bull. Jpn. Soc. Sci. Fish.* 54(12):2159-2164. 1988. In Japanese with English summ. FR 34(2)
[Dep. Fish., Fac. Agric., Kyushu Univ., 46-04, Hakozaki, Higashi, Fukuoka 812, Japan]

89-002526 Nakagawa, Hisaki and Shinya Ishio. [ASPECTS OF ACCUMULATION OF COPPER MANGANESE AND ZINC IONS IN THE EGG OF MEDAKA ORYZIAS LATIPES.] *Bull. Jpn. Soc. Sci. Fish.* 55(1):117-121. 1989. In Japanese with English summ. FR 34(2)
[Dep. Fish., Fac. Agric., Kyushu Univ., Hakozaki, Higashi, Fukuoka 812, Japan]

89-002527 Ojha, J.; N. C. Roop; A. K. Mittal and J. S. Datta Munshi. LIGHT AND SCANNING ELECTRON MICROSCOPIC STUDIES ON THE EFFECT OF BIOCIDAL PLANT SA ON THE GILLS OF A HILL STREAM FISH, *CARRA LAMTA* (HAM.). *J. Fish Biol.* 34(2):165-170. 1989. FR 34(2)
[Dep. Zool., Bhagalpur Univ., Bhagalpur-812007, India]

89-002528 Petersen, Robert C., Jr. and Lena B.-M. Peterson. COMPENSATORY MORTALITY IN AQUATIC POPULATIONS: ITS IMPORTANCE FOR INTERPRETATION OF TOXICANT EFFECTS. *Ambio* 17(6):381-386. 1988. FR 34(2)
[Inst. Limnol., Dep. Ecol., Univ. Lund, Box 65, Lund, Sweden]

89-002529 Protic, Miroslava and Aleksandar Sabljic. QUANTITATIVE STRUCTURE-ACTIVITY RELATIONSHIPS OF ACUTE TOXICITY OF COMMERCIAL CHEMICALS ON FATHEAD MINNOWS: EFFECT OF MOLECULAR SIZE. *Aquat. Toxicol. (Amst.)* 14(1):47-64. 1989. FR 34(2)
[Sabljic: Dep. Physical Chem., Inst. Rudjer Boskovic, P.O.B. 1016, 41001 Zagreb Croatia, Yugoslavia] *Pimephales promelas*.

89-002530 Radhaiah, V.; K. Vijay Joseph and K. Jayantha Rao. TOXIC EFFECT OF FENVALERATE ON FRUCTOSE-1,6-DIPHOSPHATE ALDOLASE ACTIVITY OF LIVER, GILL, KIDNEY, AND BRAIN OF THE FRESH WATER TELEOST, *TILAPIA MOSSAMBICA*. *Bull. Environ. Contam. Toxicol.* 42(1):150-153. 1989. FR 34(2)
[Rao: Div. Toxicol., Dep. Zool., Sri Venkateswara Univ., Tirupati-517 502 A.P., India]

89-002531 Rexrode, M. and T. M. Armitage. HAZARD EVALUATION DIVISION STANDARD EVALUATION PROCEDURE - FISH LIFE-CYCLE TOXICITY TESTS. *Environ. Protection Agency EPA/540/9-87/137*. 17p. 1986. From U.S. Government Reports 87(19):218. 1987 Available from NTIS as PB87-209169/GAR. FR 34(2)

89-002533 Roberts, Morris H., Jr.; William J. Hargis, Jr.; Charles J. Strobel and Peter F. De Liste. ACUTE TOXICITY OF PAH CONTAMINATED SEDIMENTS TO THE ESTUARINE FISH, *LEIOSTOMUS XANTHURUS*. *Bull. Environ. Contam. Toxicol.* 42(1):142-149. 1989. FR 34(2)

[Va. Inst. Mar. Sci., School Mar. Sci., Coll. William & Mary, Gloucester Point 23062]

89-002534 Robertson, S. M.; A. L. Lawrence; W. H. Neill; C. R. Arnold and G. McCarty. TOXICITY OF THE CRYOPROTECTANTS GLYCEROL, DIMETHYL SULFOXIDE, ETHYLENE GLYCOL, METHANOL, SUCROSE AND SEA SALT SOLUTIONS TO THE EMBRYOS OF RED DRUM. *Prog. Fish-Cult.* 50(3):148-154. 1989. FR 34(2)

[Shrimp Maricult. Project, Tex. A&M Univ., P.O. Drawer Q, Port Aransas 78373]
Sciaenops ocellatus.

89-002535 Roy, Debasish. DETERGENT-INDUCED CHANGES IN THE MAPPING OF CERTAIN ENZYMES IN VARIOUS CELL TYPES OF *RITA RITA*. I. OPERCULAR EPIDERMIS. *Ecotoxicol. Environ. Saf.* 17(1):59-66. 1989. FR 34(2)

[c/o Mr. R.N. Roy, 464, Saheednagar, Bhubaneswar-751 007, Orissa, India]

89-002536 Roy, Debasish. DETERGENT-INDUCED CHANGES IN THE MAPPING OF CERTAIN ENZYMES IN VARIOUS CELL TYPES OF *RITA RITA*. II. GILL EPITHELIUM. *Ecotoxicol. Environ. Saf.* 17(1):67-74. 1989. FR 34(2)

[c/o Mr. R.N. Roy, 464, Saheednagar, Bhubaneswar-751 007, Orissa, India]

89-002537 Sambasiva Rao, K. R. S. and K. V. Ramana Rao. COMBINED ACTION OF CARBARYL AND PHENTHOATE ON THE SENSITIVITY OF THE ACETYLCHOLINESTERASE SYSTEM OF THE FISH, *CHANNA PUNCTATUS* (BLOCH). *Ecotoxicol. Environ. Saf.* 17(1):12-15. 1989. FR 34(2)

[Dep. Zool., Nagarjuna Univ., Nagarjunanagar 522 510, A.P., India]

89-002538 Sandheinrich, Mark B. SUBLETHAL TOXICANT EFFECTS ON FISH FORAGING BEHAVIOR: A MECHANISTIC APPROACH. *Ph.D. dissertation, Iowa State Univ.* 204p. 1989. From Diss. Abstr. Int. B Sci. Eng. 49(9):3571. 1989. Order No. DA8825445. FR 34(2)
Lepomis macrochirus.

89-002539 Sandstrom, Olof and Gunnar Thoreson. MORTALITY IN PERCH POPULATIONS IN A BALTIC PULP MILL EFFLUENT AREA. *Mar. Pollut. Bull.* 19(11):564-567. 1988. FR 34(2)

[Natl. Swedish Environ. Protection Board, Mar. Sect., P.O. Box 584, S740 71 Oregrund Sweden] *Perca fluviatilis*.

89-002540 Shugart, L. R. QUANTITATION OF CHEMICALLY INDUCED DAMAGE TO DNA OF AQUATIC ORGANISMS BY ALKALINE UNWINDING ASSAY. *Aquat. Toxicol.* (Amst.) 13(1):43-52. 1988. FR 34(2)

[Environ. Sci. Div., Oak Ridge Natl. Lab., Oak Ridge, TN 37831-6036] *Lepomis macrochirus* and *Pimephales promelas*.

89-002541 Siebers, H. H. PATTERNS AND VARIABILITY OF PHOSPHATE AND HEAVY METALS IN SEDIMENTS OF TWO SHALLOW LAKES. *Tech. Hogeschool Delft (Netherlands)* 183p. 1985. From U.S. Government Reports 88(5):100. 1988. Available from NTIS as PB88-112971 (CA9 50 2442)

89-002543 Soivio, A.; E. Nikunen and H. Tuurala. ACUTE RESPONSE TO SODIUM HYPOCHLORITE IN RAINBOW TROUT ACCLIMATIZED TO PULP AND PAPER MILL EFFLUENTS. *Aquat. Toxicol. (Amst.)* 13(1):77-88. 1988. FR 34(2)

[Dep. Zool., Div. Physiol., Univ. Helsinki, Arkadiankatu 7, SF-00100 Helsinki, Finland]
Oncorhynchus mykiss.

89-002544 Solbe, J. F. de L. G. and D. G. Shurben. TOXICITY OF AMMONIA TO EARLY LIFE STAGES OF RAINBOW TROUT (*SALMO GAIIRDNERI*). *Water Res.* 23(1):127-129. 1989. FR 34(2)

[Water Res. Cent., Environ. Lab., Henley Rd., Medmenham, P.O. Box 16, Marlow, Bucks SL7 2HD, England]

89-002545 Uchida, Naoyuki; Masaharu Kaneko; Tatuya Musashi; Kayo Tanaka; Hiroshi Anzai and Eiichi Nishide. [COMPARISON OF THE INITIAL METABOLIC PATHWAY OF *p,p'*-DDT IN CARP AND TILAPIA.] *Bull. Jpn. Soc. Sci. Fish.* 54(12):2217-2221. 1988. In Japanese with English summ. FR 34(2)

[Dep. Fish., Coll. Agric. & Vet. Med., Nihon Univ., Shimouma, Setagaya, Tokyo 154 Japan] *Tilapia nilotica* and *Cyprinus carpio*.

89-002546 Walker, W. W.; C. R. Cripe; P. H. Pritchard and A. W. Bourquin. BIOLOGICAL AND ABIOTIC DEGRADATION OF XENOBIOTIC COMPOUNDS IN *IN VITRO* ESTUARINE WATER AND SEDIMENT/WATER SYSTEMS. *Chemosphere* 17(12):2255-2270. 1988. FR 34(2)

[Gulf Coast Res. Lab., Ocean Springs, MS 39564]

89-002547 Welden, B. A.; M. Martin and G. A. Pollock. TRACE ORGANIC AND TRACE METAL CONTAMINANTS IN FISH FROM MONTEREY BAY: THE MONTEREY BAY MARINE ENVIRONMENTAL HEALTH SURVEY. *Am. Zool.* 28(4):137A. 1988. Abstract only. FR 34(2)

[Univ. Calif., Santa Cruz] *Genyonemus lineatus* and *Platichthys stellatus*.

89-002548 Wicklund, Anders and Per Runn. CALCIUM EFFECTS ON CADMIUM UPTAKE, REDISTRIBUTION, AND ELIMINATION IN MINNOWS, *PHOXINUS PHOXINUS*, ACCLIMATED TO DIFFERENT CALCIUM CONCENTRATIONS. *Aquat. Toxicol. (Amst.)* 13(2):109-122. 1988. FR 34(2)

[Dep. Zool., Univ. Uppsala, Box 561, S-751-22, Uppsala, Sweden]

89-002549 Williams, E. M. and F. B. Eddy. ANION TRANSPORT, CHLORIDE CELL NUMBER AND NITRITE-INDUCED METHAEMOGLOBINAEMIA IN RAINBOW TROUT (*SALMO GAIIRDNERI*) AND CARP (*CYPRINUS CARPIO*). *Aquat. Toxicol. (Amst.)* 13(1):29-42. 1988. FR 34(2)

[Dundee Univ., Dundee DD1 1HN, Scotland]

dissertation, Univ. Calif. [Davis] 426p. 1988. From Diss. Abstr. Int.
89(8):2989. 1989. Order No. DA8821683. FR 34(2)
Lepomis cyanellus and *Gambusia affinis*.

89-002552 Boothroyd, Ian. REGIONAL MODIFICATION TO WATERWAY
HAURAKI PLAINS AND THE COROMANDEL PENINSULA. *Freshwater Catch*
1988. FR 34(2)

89-002553 Burdas, M. P. and D. E. Walling, editors. SEDIMENT BUDGETS
OF THE PORTO ALEGRE SYMPOSIUM, DECEMBER 1988.) *Int. Assoc. Hydro*
174. 591p. 1988. Available from Office Treasurer, IAH, 2000 Florida Ave.
DC 20009.

[Inst. Pesquisas Hidraul., Univ. Fed. Rio Grande do Sul, P.O. Box
Alegre, RS, Brazil] Individual papers indexed in this issue of *Fisheries Rev*

89-002554 Boto, Kevin G. and John T. Wellington. SEASONAL
CONCENTRATIONS AND FLUXES OF DISSOLVED ORGANIC AND INORGANIC
A TROPICAL, TIDALLY-DOMINATED, MANGROVE WATERWAY. *Mar. Ecol.*
50(1/2):151-160. 1988. FR 34(2)

[Inst. Mar. Sci., P.M.B. No. 3, Townsville MC, Qld. 4810, Australia]

89-002555 Brocksen, Robert W.; Heinz W. Zoetli; Donald B. Porcella; Re
Karl-Heinz Feger and Joe Wisniewski. EXPERIMENTAL LIMING OF W
INTERNATIONAL COOPERATIVE EFFORT BETWEEN THE UNITED STA
GERMANY. *Water Air Soil Pollut.* 41(1-4):455-471. 1988. FR 34(2)

[Living Lakes, Inc., 1000 Vermont Ave., N.W., Suite 900, Washington, D

89-002556 Brouha, Paul. WILDLIFE AND FISHERIES MANAGEMENT IN THE
SERVICE. *U.S. For. Serv. Gen. Tech. Rep.* SO-65. p. 64-67. 1987. FR 34(2)
[Am. Fish. Soc., 5410 Grosvenor Ln., Bethesda, MD 20814]

89-002557 Brussard, Peter F. STOCHASTIC PROCESSES AND POPULATION
IN DESERT FISHES. *Proc. Desert Fishes Council*. 18:235-241. 1987. FR 34(2)
[Dep. Biol., Mont. State Univ., Bozeman 59717]

89-002558 Capalbo, Susan M. and Morton M. Miller. BRIDGING THE
ECONOMIC THEORY AND FISHERIES MANAGEMENT: THE 10-YEAR MFC
Mar. Fish. Rev. 49(3):1-2. 1987. FR 34(2)

[Mont. State Univ., Bozeman]

89-002559 Chaudhuri, K. DYNAMIC OPTIMIZATION OF COMBINED HARVESTING
TWO-SPECIES FISHERY. *Int. Cent. Theor. Physics* IC-86/92. 11p.
Government Reports 87(20):21. 1987. Available from NTIS as DE87701770/G

- 89-002562 Courtenay, Walter R., Jr. and Christopher C. Kohler. EXOTIC FISHES OF THE NORTH AMERICAN FISHERIES MANAGEMENT. In: *Fish Culture in Fisheries Management*. Richard Stroud, editor. p. 401-413. 1986. FR 34(2)
[Dep. Zool., Fla. Atl. Univ., Boca Raton]
- 89-002563 Craig, P. C. ALASKA OCS (OUTER CONTINENTAL SHELF) SOCIOECONOMIC STUDIES PROGRAM. TECHNICAL REPORT NUMBER 129. SUBSISTENCE FISHERIES AT COASTAL VILLAGES IN THE ALASKAN ARCTIC, 1970-1986. *ICL Ecol. Res. Assoc.*, OCS/NMS-87/0044. 69p. 1987. From U.S. Government Reports 87(22) 21. 1987. Available from NTIS as PB87-221439/GAR. FR 34(2)
- 89-002564 Craig, Peter C. SUBSISTENCE FISHERIES AT COASTAL VILLAGES IN THE ALASKAN ARCTIC, 1970-1986. *Biol. Pap. Univ. Alaska* No. 24. p. 131-152. 1989. FR 34(2)
[Dep. Fish & Game, 211 Mission Rd., Kodiak, AK 99615]
- 89-002565 Dickson, James G. and O. Eugene Maughan, editors. MANAGING SOUTHWESTERN FORESTS FOR WILDLIFE AND FISH: A PROCEEDINGS. *U.S. For. Serv. Gen. Tech. Rep.* SO-65. 85p. 1987. FR 34(2)
- 89-002566 Dill, William A. and Adam Ben-Tuvia. THE INLAND FISHERIES OF ISRAEL. *Bamigdeh* 40(3):75-104. 1988. FR 34(2)
[Fish. Consult., 730 N. Campus Way, Davis, CA 95616]
- 89-002567 Ditton, R. B. and D. K. Loomis. HALL OF FAME FISHING TOURNAMENT (1988): AN ANALYSIS OF THE PARTICIPANTS' CHARACTERISTICS, ATTITUDES / EXPENDITURES. See *Grant Coll. Program (Tex. A&M Univ.)* TAMU-SG-88-201. 33p. 1988. From U.S. Government Reports 88(10):23. 1988. Available from NTIS as PB88-159835/GAR. FR 34(2)
- 89-002568 Duff, Donald A. BONNEVILLE CUTTHROAT TROUT: CURRENT STATUS AND MANAGEMENT. *Am. Fish. Soc. Symp.* 4:121-127. 1988. FR 34(2)
[U.S. For. Serv., 324 25th St., Ogden, UT 84401] *Oncorhynchus clarki utah*.
- 89-002569 Dunkle, Frank. TOWARD A NATIONAL RECREATIONAL FISHERIES POLICY. *Trans. N. Am. Wildl. Nat. Resour. Conf.* 53:285-287. 1988. FR 34(2)
[U.S. Fish & Wildl. Serv., Washington, DC]
- 89-002570 Durako, Michael J.; Michael D. Murphy and Kenneth D. Haddad. ASSESSMENT OF FISHERIES HABITAT: NORTHEAST FLORIDA. *Fla. Mar. Res. Publ.* No. 45. 51p. 1988. FR 34(2)

89-002570 CONTINUED

[Dep. Nat. Resour., Bur. Mar. Res., 100 Eighth Ave. S.E., Petersburg, FL 33701-5035]

89-002571 Fawcett, Robert S. NEW HAMPSHIRE MARINE RECREATIONAL FISHERY. *Trans. Northeast Fish Wildl. Conf.* 41. p. 252. 1984. Abstract only. FR 34(2)
[Fish & Game Dep., 34 Bridge St., Concord, NH 03301]

89-002572 Garcia Puebla, Manuel and Lourdes Juarez Romero. THE CENTRO ECOLOGICO DE SONORA: AN INSTITUTION FOR STUDY OF THE FLORA AND FAUNA OF THE SONORAN DESERT. *Proc. Desert Fishes Council*. 18:194-195. 1987. English and Spanish abstract only. FR 34(2)
[Edificio Alonso, 202 Hermosillo, Sonora, Mexico]

89-002573 Goede, Ronald W. MANAGEMENT CONSIDERATIONS IN STOCKING OF DISEASED OR CARRIER FISH. In: *Fish Culture in Fisheries Management*. Richard Stroud, editor. p. 349-355. 1986. FR 34(2)
[Div. Wildl. Resour., Logan, UT]

89-002574 Hackney, P. A. SUSTAINING OPTIMUM POPULATION SIZE THROUGH STOCKING. In: *Fish Culture in Fisheries Management*. Richard Stroud, editor. p. 173-178. 1986. FR 34(2)
[Fish. & Aquat. Ecol. Branch, Tenn. Valley Authority, Knoxville]

89-002575 Hubley, Raymond C., Jr. THE LONG RANGE PLAN OF THE AMERICAN FISHERIES SOCIETY. *Fisheries (Bethesda)* 14(1):16-22. 1989. FR 34(2)

89-002576 Janik, Phil. VISIBILITY OF FISHERIES RESOURCES AND FISHERIES SCIENCE: AN AMERICAN FISHERIES SOCIETY ACTION PLAN. *Fisheries (Bethesda)* 14(1):23-26. 1989. FR 34(2)

89-002577 Kitamikado, Manabu; Chongsheng Yuan; Keiko Yoshioka and Ryuji Ueno. A ROUTINE METHOD AND TEST PAPER METHOD FOR THE DIFFERENTIATION BETWEEN FROZEN-THAWED AND UNFROZEN FISH. *Bull. Jpn. Soc. Sci. Fish.* 54(12):2149-2151. 1988. In English. FR 34(2)
[Dep. Fish., Fac. Agric., Kyushu Univ., Hakozaki, Higashi-ku, Fukuoka 812, Japan]

89-002578 Leitch, Jay A. POLITICOECONOMIC OVERVIEW OF PRAIRIE POTHOLE. In: *Northern Prairie Wetlands*. Arnold van der Valk, editor. p. 3-14. 1989. FR 34(2)
[Dep. Agric. Econ., N.D. State Univ., Fargo 58105]

89-002579 Majumuria, Trilok Chandra, editor. WILDLIFE WEALTH OF INDIA (RESOURCES & MANAGEMENT). Tecpress Serv., L.P. 656p. 1986. FR 34(2)
Selected papers indexed in this issue of *Fisheries Review*.

89-002580 Marsh, Paul C. RAZORBACK SUCKER MANAGEMENT IN ARIZONA. *Proc. Desert Fishes Council*. 17:181-182. 1987. English and Spanish abstract only. FR 34(2)
[Cent. Environ. Studies & Dep. Zool., Ariz. State Univ., Tempe 85287] *Xyrauchen texanus*.

89-002582 Martinez, Patrick J. PURSUING A SPORTFISHERY FOR ENDANGERED COLORADO SQUAWFISH. *Proc. Desert Fishes Council*, 18:246, 1987. Abstract only. FR 34(2)
[Div. Wildl., 711 Independent Ave., Grand Junction, CO 81505] *Ptychocheilus lucius*.

89-002583 Marut, C. J. and D. J. Hwang. INDUSTRIAL OUTLOOK REPORT: FISHING INDUSTRY OF TAIWAN, 1986-1987. *Am. Inst. Taiwan NMFS/FIA23/88-12*. 30p. 1988. From U.S. Government Reports 89(17):16. 1988. Available from NTIS as PB88-209022/GAR. FR 34(2)

89-002584 Mikkola, Heimo. SOME POLICY PRIORITIES FOR FISHERIES AND AQUACULTURE DEVELOPMENT IN AFRICA. *Aqua Fenn.* 18(1):101-108. 1988. In English with Finnish summary. FR 34(2)
[Fish & Water Res. Ltd., Sepontie 18 A 4, SF-73300 Nilsia, Finland]

89-002585 Miller, Robert Rush. NORTH AMERICAN DESERT AQUATIC ECOSYSTEMS: LA MEDA LUNA, SAN LUIS POTOSI, AT THE EDGE OF CHIHUAHUAN DESERT, MEXICO. *Proc. Desert Fishes Council*. 16:67-72. 1987. FR 34(2)

89-002586 Moring, John R. STOCKING ANADROMOUS SPECIES TO RESTORE OR ENHANCE FISHERIES. In: *Fish Culture in Fisheries Management*. Richard Stroud, editor. p. 59-74. 1986. FR 34(2)
[Coop. Fish. Res. Unit, Univ. Maine, Orono 04469]

89-002587 Moyle, Peter B.; Hiram W. Li and Bruce A. Barton. THE FRANKENSTEIN EFFECT: IMPACT OF INTRODUCED FISHES ON NATIVE FISHES IN NORTH AMERICA. In: *Fish Culture in Fisheries Management*. Richard Stroud, editor. p. 415-426. 1986. FR 34(2)
[Dep. Wildl. & Fish. Biol., Univ. Calif., Davis 95616]

89-002588 Murkin, Henry R. THE BASIS FOR FOOD CHAINS IN PRAIRIE WETLANDS. In: *Northern Prairie Wetlands*. Arnold van der Valk, editor. p. 316-338. 1989. FR 34(2)
[Delta Waterfowl & Wetlands Res. Stn., R.R. 1, Portage la Prairie, MB, Canada R1N 3A1]

89-002589 Murphy, Brian R. and William E. Kelso. STRATEGIES FOR EVALUATING FRESH WATER STOCKING PROGRAMS: PAST PRACTICES AND FUTURE NEEDS. In: *Fish Culture in Fisheries Management*. Richard Stroud, editor. p. 303-314. 1986. FR 34(2)
[Dep. Wildl. & Fish. Sci., Tex. A&M Univ., College Station 77843]

89-002590 National Marine Fisheries Service. FISHERIES OF THE UNITED STATES, 1988. *Natl. Mar. Fish. Serv. CFS-8385*. 138p. 1987. From U.S. Government Reports 88(10):23. 1988. Available from NTIS as PB88-164132/GAR. FR 34(2)

89-002591 Ney, John J. and Donald J. Orth. COPING WITH FUTURE SHOCK: MATCHING PREDATOR STOCKING PROGRAMS TO PREY ABUNDANCE. In: *Fish Culture in Fisheries Management*. Richard Stroud, editor. p. 81-92. 1986. FR 34(2)
[VPI & SU, Blacksburg, VA 24061]

89-002592 Nielson, Bryce R. and Leo Lentsch. BONNEVILLE CUTTHROAT TROUT IN BEA LAKE: STATUS AND MANAGEMENT. *Am. Fish. Soc. Symp.* 4:128-133. 1988. FR 34(2)
[Div. Wildl. Resour., P.O. Box 231, Garden City, UT 84028] *Oncorhynchus clarki utah* Utah and Idaho.

89-002593 Novacek, Jean M. THE WATER AND WETLAND RESOURCES OF THE NEBRASKA SANDHILLS. In: *Northern Prairie Wetlands*. Arnold van der Valk, editor. p. 340-384. 1988. FR 34(2)
[Star Rt., Box 56, Bartlett, NE 68622]

89-002594 O'Bannon, B. K. FISHERIES OF THE UNITED STATES, 1987. *Natl. Mar. Fish. Serv. CFS-8700*. 132p. 1988. From U.S. Government Reports 88(17):16. 1988. Available from NTIS as PB88-215173/GAR. FR 34(2)

89-002595 Oliver, Mark L. and Larry L. Rider. NET-PEN AQUACULTURE IN BULL SHOALS RESERVOIR. In: *Fish Culture in Fisheries Management*. Richard Stroud, editor. p. 287-300. 1986. FR 34(2)

89-002596 Parker, Nick C. PHYSICAL AND BIOLOGICAL FACTORS INFLUENCING GROWTH AND SURVIVAL OF STOCKED FISH. In: *Fish Culture in Fisheries Management*. Richard Stroud, editor. p. 235-241. 1986. FR 34(2)

89-002597 Philipp, David P.; Jeffrey B. Koppelman and Jeffrey L. Van Orman. TECHNIQUES FOR IDENTIFICATION AND CONSERVATION OF FISH STOCKS. In: *Fish Culture in Fisheries Management*. Richard Stroud, editor. p. 323-337. 1986. FR 34(2)
[Dep. Anim. Sci., Univ. Ill., Urbana 61801]

89-002598 Pister, Edwin P., editor. PROCEEDINGS OF THE DESERT FISHES COUNCIL. VOLUMES XVI - XVIII. *Proc. Desert Fishes Council*. 16-18:1-254. 1987. FR 34(2)
[Desert Fishes Council, 407 W. Line St., Bishop, CA 93514] Selected papers indexed in this issue of *Fisheries Review*.

89-002599 Porch, Clarence Edward III. THE DYNAMIC TRENDS OF FISHERIES REGULATED BY SMALL DAILY BAG LIMITS. *M.S. thesis, Univ. Miami* 182p. 1988. From Masters Abstr. Int. 27(1):68. 1989. Order No. MA1334166. FR 34(2)

89-002600 Price, K. S. and B. J. Dinkins. FISHERIES FLUCTUATIONS: CAN WE SEPARATE MANMADE EFFECTS FROM NATURAL EFFECTS ON THE ABUNDANCE OF DELAWARE BAY FISHERIES. *Sea Grant Coll. Program (Delaware Univ.)* 10p. 1985. From U.S. Government Reports 88(13):21. 1988. Available from NTIS as PB88-179825/GAR. FR 34(2)

89-002601 Riely, Patricia Lavin and David B. Rockland. EVALUATION OF LIMING OPERATIONS THROUGH BENEFIT-COST ANALYSIS. *Water Air Soil Pollut.* 41(1-4):223-228. 1988. FR 34(2)
[Spartan, Inc.]

89-002603 Russi, Terry. FISH SLOUGH AREA OF CRITICAL ENVIRONMENTAL CONCERN. *Proc. Desert Fishes Council*. 16:56-57. 1987. English and Spanish abstract only. FR 34(2)
[U.S. Bur. Land Manage., Bishop, CA 93514] *Cyprinodon radiosus*, *Gila bicolor*, and *Cotostomus fumiventris* in California.

89-002604 Shelton, William L. REPRODUCTIVE CONTROL OF EXOTIC FISHES - A PRIMARY REQUISITE FOR UTILIZATION IN MANAGEMENT. In: *Fish Culture in Fisheries Management*. Richard Stroud, editor. p. 427-431. 1986. FR 34(2)
[Zool. Dep., Univ. Okla., Norman]

89-002605 Skelton, P. H. and P. Stuart. A HISTORY OF THE COLLECTION OF FRESHWATER FISHES AND A CATALOGUE OF THE TYPES OF FRESHWATER FISHES IN THE ALBANY MUSEUM, GRAHAMSTOWN. *Ann. Cape Prov. Mus. Nat. Hist.* 16(B):179-189. 1987. FR 34(2)
[J.L.B. Smith Inst. Ichthyol., Private Bag 1015, Grahamstown 6140, South Africa]

89-002606 Smith, Barry W. and William C. Reeves. STOCKING WARM-WATER SPECIES TO RESTORE OR ENHANCE FISHERIES. In: *Fish Culture in Fisheries Management*. Richard Stroud, editor. p. 17-29. 1986. FR 34(2)

89-002607 Stefferud, Jerome A. RIO GRANDE CUTTHROAT TROUT MANAGEMENT IN NEW MEXICO. *Am. Fish. Soc. Symp.* 4:90-92. 1988. FR 34(2)
[U.S. For. Serv., Santa Fe Natl. For., P.O. Box 1689, Santa Fe, NM 87504] *Oncorhynchus clarki virginolis*.

89-002608 Susser, M. J. and A. M. Wafar. FISHERIES REPORT FOR SPAIN, 1986. *Am. Embassy (Madrid, Spain)* NMFS-FIA23/88-2. 40p. 1987. From U.S. Government Reports 88(11):20. 1988. Available from NTIS as PB88-167069/GAR. FR 34(2)

89-002609 Thomas, T. and M. Kravanja. FISHERIES OF CAMEROON, 1986. *Natl. Mar. Fish. Serv.* NMFS-FIA23/88-14. 14p. 1988. From U.S. Government Reports 88(17):16. 1988. Available from NTIS as PB88-208269/GAR. FR 34(2)

89-002610 U.S. General Accounting Office. BOATING AND FISHING: ADMINISTRATION OF THE WALLOP-BREAUX TRUST FUND. *U.S. Gen. Acct. Office Briefing Rep. Congressional Requesters* GAO/RCED-89-32BR. 35p. 1989. Available from U.S. General Accounting Office, P.O. Box 6015, Gaithersburg, MD 20877. FR 34(2)

89-002611 van der Valk, Arnold, editor. NORTHERN PRAIRIE WETLANDS. *Iowa State Univ. Press (Ames)* 400p. 1989. FR 34(2)
[Dep. Bot., Iowa State Univ., Ames 50010] Selected chapters indexed in this issue of *Fisheries Review*.

89-002612 Weidner, D. and F. Quintanilla. CHILEAN FISHING INDUSTRY, 1987. *Natl. Mar. Fish. Serv.* 29p. 1988. From U.S. Government Reports 88(18):16. 1988. Available from NTIS as PB88-213871/GAR. FR 34(2)

89-002613 Weithman, A. Stephen. ECONOMIC BENEFITS AND COSTS ASSOCIATED WITH STOCKING FISH. In: *Fish Culture in Fisheries Management*. Richard Stroud, editor. p. 35-363. 1986. FR 34(2)
[Dep. Conserv., Columbia, MO]

89-002614 Werner, Y. L., editor. PROCEEDINGS OF THE MEETING OF THE ZOOLOGICAL SOCIETY OF ISRAEL (SECOND SERIES, TWENTY-FOURTH MEETING). *Isr. J. Zool.* 35(1/2):75-107. 1988/89. FR 34(2)
[Dep. Zool., Hebrew Univ., 91904 Jerusalem, Israel] Selected abstracts indexed in the issue of *Fisheries Review*.

89-002615 Wolfe, Steven H.; Jeffrey A. Reidenauer and D. Bruce Means. AN ECOLOGICAL CHARACTERIZATION OF THE FLORIDA PANHANDLE. *U.S. Fish Wildl. Serv. Biol. Rep.* 88(12):277p. 1988. Available from U.S. Fish & Wildl. Serv., Natl. Wetlands Res. Cent., 10 Gause Blvd., Slidell, LA 70458. FR 34(2)
[Dep. Environ. Regulation, 2609 Blair Stone Rd., Tallahassee, FL 32399-2400]

89-002616 Wydoski, Richard S. INFORMATIONAL NEEDS TO IMPROVE STOCKING AS A COLD-WATER FISHERIES MANAGEMENT TOOL. In: *Fish Culture in Fisheries Management*. Richard Stroud, editor. p. 41-57. 1986. FR 34(2)
[Office Maint. Manage., Fish. Resour. Program, Washington, DC]

89-002617 Yuan, Chongsheng; Keiko Yoshioaka, Ryuji Ueno and Manabu Kitamkad. DIFFERENTIATION OF FROZEN-THAWED FISH FROM UNFROZEN FISH BY DETERMINATION OF NEUTRAL β -N-ACETYLGLUCOSAMINIDASE ACTIVITY IN THE BLOOD. *Bull. Jpn. Soc. Sci. Fish.* 54(12):2143-2148. 1988. In English. FR 34(2)
[Dep. Fish., Fac. Agric., Kyushu Univ., Hakozaki, Higashi-ku, Fukuoka 812, Japan]

89-002618 Zuckerman, Laurence D. and Robert J. Behnke. INTRODUCED FISHES IN THE SAN LUIS VALLEY, COLORADO. In: *Fish Culture in Fisheries Management*. Richard Stroud, editor. p. 435-453. 1986. FR 34(2)
[Dep. Fish. & Wildl. Biol., Colo. State Univ., Fort Collins 80523]

ADMINISTRATION AND PLANNING

89-002619 Bonneville Power Administration. RESIDENT FISH ACTIVITIES: ANNUAL REPORT, FISCAL YEAR 1986. *Bonneville Power Admin. DOE/BP-662*. 1986. From U.S. Government Reports 87(22):19. 1987. Available from NTIS as DE87009913/GAR. FR 34(2)

89-002620 International Pacific Halibut Commission. INTERNATIONAL PACIFIC HALIBUT COMMISSION ANNUAL REPORT. *Int. Pac. Halibut Comm. Annu. Rep.* 1987. 51p. 1988. FR 34(2)
[P. O. Box 95009, Seattle, WA 98145-2009]

89-002621 Short, Cathleen. MITIGATION BANKING. *U.S. Fish Wildl. Serv. Biol. Rep.* 88(4):103p. 1988. Available from U.S. Fish & Wildl. Serv., Natl. Ecol. Res. Cent., 261 Redwing Rd., Creekside One, Fort Collins, CO 80526-2800. FR 34(2)

89-002623 Amson, Jonathan E. THE TAMPA HARBOR PROJECT: A MAJOR MONITORING SUCCESS. *Mar. Pollut. Bull.* 19(11):637-646. 1988. FR 34(2)
[Office Mar. & Estuarine Protection (WH-556F), U.S. Environ. Protection Agency, 401 St., S.W., Washington, DC 20460]

89-002624 Andrus, C. W.; B. A. Long and H. A. Froehlich. WOODY DEBRIS AND ITS CONTRIBUTION TO POOL FORMATION IN A COASTAL STREAM 50 YEARS AFTER LOGGING. *Can. J. Fish. Aquat. Sci.* 45(12):2080-2086. 1988. In English with French summ. FR 34(2)
[For. Eng. Dep., Oreg. State Univ., Corvallis 97331]

89-002625 Bain, Mark B.; John T. Finn and Henry E. Booke. EFFECTS OF DAILY FLOW FLUCTUATIONS ON HABITAT USE AND GUILD STRUCTURE IN A RIVERINE FISH COMMUNITY. *Trans. Northeast Fish Wildl. Conf.* 41, p. 247. 1984. Abstract only. FR 34(2)
[Coop. Fish. Res. Unit, Univ. Mass., Amherst 01603]

89-002626 Castilla, Juan C. and Rodrigo H. Bustamante. HUMAN EXCLUSION FROM ROCK INTERTIDAL SHORES OF LAS CRUCES, CENTRAL CHILE: EFFECTS ON *DURVILLAEA ANTARCTICA* (PHAEOPHYTA, DURVILLACEALES). *Mar. Ecol. Prog. Ser.* 50(3):203-214. 1988. FR 34(2)
[Estac. Costera Invest. Mar. (ECIM), Dep. Ecol., Univ. Catolica Chile, Casilla 114-D Santiago, Chile]

89-002627 Curtis, L. T.; J. M. Nostler and J. L. Martin. COMPARATIVE EFFECTS OF TROUT HABITAT OF HYDROPOWER MODIFICATION WITH AND WITHOUT REREGULATION IN THE CUMBERLAND RIVER BELOW WOLF CREEK DAM, KENTUCKY. *U.S. Army Eng. Waterways Exp. Sta. WES/MP/EL-87-2*. 179p. 1987. From U.S. Government Report 87(16):140-141. 1987. Available from NTIS as AD-A179 787/77GAR. FR 34(2)

89-002628 Delarue, J. [CHANGES IN SALMON STOCKS DUE TO ELECTRIC POWER MICROSTATIONS.] In: *The Restoration of Salmonid Rivers*. M. Thibault and R. Billard, editors, p. 407-411. 1987. In French with English summ. FR 34(2)
[Fed. Dep. AAPP Pyrenees Atlantiques, 29 rue A. Briand, 64000 Pau, France] *Salmo* spp. in France.

89-002629 Erman, Don C.; Edmund D. Andrews and Michael Yoder-Williams. EFFECTS OF WINTER FLOODS ON FISHES IN THE SIERRA NEVADA. *Can. J. Fish. Aquat. Sci.* 45(12):2195-2200. 1988. In English with French summ. FR 34(2)
[Dep. For. & Resour. Manage., Univ. Calif., Berkeley 94720] *Salvelinus fontinalis* and *Cottus beldingi* in California.

89-002630 Feckhelm, Robert G.; Joshua S. Baker; William B. Griffiths and David Schmidt. LOCALIZED MOVEMENT PATTERNS OF LEAST CISCO (*COREGONUS SARDINELLA*) AND ARCTIC CISCO (*C. AUTUMNALIS*) IN THE VICINITY OF A SOLID-FILL CAUSEWAY. *Biol. Pap. Univ. Alaska* No. 24, p. 75-106. 1989. FR 34(2)
[LGL Ecol. Res. Assoc., Inc., 1410 Cavitt St., Bryan, TX 77801]

89-002631 Gloss, Steven P. and Walter A. Popp. HABITAT SELECTION BY JUVENILE RAINBOW TROUT (*SALMO GAIARDNERI*) UNDER FLUCTUATING FLOW CONDITIONS. *Trans. Northeast Fish Wildl. Conf.* 41, p. 248. 1984. Abstract only. FR 34(2)
[Coop. Fish. Res. Unit, Cornell Univ., Ithaca, NY 14853]

89-002632 Hadderingh, R. H.; F. B. J. Koops and J. W. van der Stoep. RESEARCH ON FISH PROTECTION AT DUTCH THERMAL AND HYDROPOWER STATIONS. *Keuring v. Electrotech. Mater. (Netherlands)* 18p. 1988. From U.S. Government Reports 88(18):1. 1988. Available from NTIS as PB88-213145/GAR. FR 34(2)

89-002633 Heggberget, Tor G. POPULATIONS OF PRESMOLT ATLANTIC SALMON (*SALMO SALAR* L.) AND BROWN TROUT (*SALMO TRUTTA* L.) BEFORE AND AFTER HYDROELECTRIC DEVELOPMENT AND BUILDING OF WEIRS IN THE RIVER SKJOMMA NORTH NORWAY. In: *Regulated Rivers*. Albert Lillehammer and Svein Jakob Saltveit, editors. p. 293-308. 1984. FR 34(2)
[Fish & Wildl. Agency, Sverresgt. 1, N-7000 Trondheim, Norway]

89-002634 Hulsman, K. and P. E. R. Dale. MANAGEMENT OF A SUBTROPICAL COASTAL SALT-MARSH FOR MOSQUITO CONTROL. *Proc. Ecol. Soc. Aust.* 15:227-228. 1988. FR 34(2)
[School Australian Environ. Studies, Griffith Univ., Nathan, Qld. 4111, Australia]

89-002635 Katz, Harvey M. and Anne Harris Katz. FISH SPECIES DISTRIBUTION, DIVERSITY, AND POPULATION SIZE IN AN URBANIZED ECOSYSTEM. *Trans. Northeast Fish Wildl. Conf.* 41, p. 229. 1984. Abstract only. FR 34(2)
[Great Swamp Res. Inst., 49 Lyons Rd., Basking Ridge, NJ 07920]

89-002636 Kratt, L. F. EVIDENCE OF ARCTIC GRAYLING (*THYMALLUS ARCTICUS*) SPAWNING IN A HIGHWAY CULVERT. *Can. Field-Nat.* 95(3):358. 1981. FR 34(2)
[Environ. Manage. Assoc., 1530-10 Avenue S.W., Calgary, AB, Canada T3C 0J5]

89-002637 Leider, Steven A. INCREASED STRAYING BY ADULT STEELHEAD TROUT, *SALMO GAIARDNERI*, FOLLOWING THE 1980 ERUPTION OF MOUNT ST. HELENS. *Environ. Biol. Fishes* 24(3):219-229. 1989. FR 34(2)
Dep. Wildl., Fish Manage. Div., 600 N. Capitol Way, Olympia, WA 98504]

89-002638 Linden, Olof; Lennart Lindstrom and Bjorn Ganning. THE DESTRUCTION OF CORAL REEFS IN THE INNER PART OF BRUNEI BAY, BORNEO. *Malay. Nat.* 42(1):9-13. 1988. FR 34(2)
[Swedish Environ. Res. Inst. (IVL), P.O. Box 21060, S-100 31 Stockholm, Sweden]

89-002639 Loomis, John B. A BIOECONOMIC APPROACH TO ESTIMATING THE ECONOMIC EFFECTS OF WATERSHED DISTURBANCE ON RECREATIONAL AND COMMERCIAL FISHERIES. *J. Soil Water Conserv.* 44(1):83-87. 1989. FR 34(2)
[Div. Environ. Studies & Dep. Agric. Econ., Univ. Calif., Davis 95616]

89-002640 Ludwig, Richard L. ENVIRONMENTAL EFFECTS OF METROPOLITAN GROWTH ON WATER RESOURCES. *Int. J. Water Resour. Manage.* 4(1):1-10. 1989. FR 34(2)
[Coll. Architect. & Planning, Univ. Calif., Davis 95616]

89-002642 Miller, A. C.; K. J. Killgore; B. S. Payne and D. Buckley. ENVIRONMENTAL AND WATER QUALITY OPERATIONAL STUDIES. BIBLIOGRAPHY OF EFFECTS OF COMMERCIAL NAVIGATION TRAFFIC IN LARGE WATERWAYS. U.S. Army Eng. Waterway Exp. Stn. WES/MP/E-87-1. 49p. 1987. From U.S. Government Reports 87(20):145. 1987. Available from NTIS as AD-A181 912/7/GAR. FR 34(2)

89-002643 Miller, Edwin. EFFECTS OF FOREST PRACTICES ON RELATIONSHIPS BETWEEN RIPARIAN AREA AND AQUATIC ECOSYSTEMS. U.S. For. Serv. Gen. Tech. Rep. SO-65. p. 40-47. 1987. FR 34(2)
[Dep. For., Okla. State Univ., Stillwater 74078-0191]

89-002644 Mwalyosi, Raphael B. B. ENVIRONMENTAL IMPACTS OF THE PROPOSED STIEGLER'S GORGE HYDROPOWER PROJECT, TANZANIA. *Environ. Conserv.* 15(3):250-254. 1988. FR 34(2)
[Inst. Resour. Assessment, Univ. Dar es Salaam, P.O. Box 35097, Dar es Salaam Tanzania]

89-002645 Myers, Norman. ENVIRONMENTAL DEGRADATION AND SOME ECONOMIC CONSEQUENCES IN THE PHILIPPINES. *Environ. Conserv.* 15(3):205-214. 1988. FR 34(2)
[Consult. Environ. & Dev., Upper Meadow, Old Rd., Headington, Oxford OX3 8SZ England]

89-002646 Nilsson, Christer. EFFECT OF STREAM REGULATION ON RIPARIAN VEGETATION. In: *Regulated Rivers. Albert Lillehammer and Svein Jakob Saltveit, editors* p. 93-106. 1984. FR 34(2)
[Dep. Ecol. Bot., Umea Univ., S-901 87 Umea, Sweden]

89-002647 O'Neil, T. A. and G. W. Witmer. APPROACH TO MITIGATING HYDROELECTRIC IMPACTS ON SHORELINE ECOLOGY. *Argonne Natl. Lab. CONF-8610229-1*. 18p. 1986. From U.S. Government Reports 87(15):122. 1987. Available from NTIS as DE87004932/GAR. FR 34(2)

89-002648 Por, F. D.; Ch. Dimentman and H. J. Bromley. RECONSTRUCTION OF THE FAUNISTIC INVENTORY OF LAKE HULA: A PROJECT OF THE ISRAEL NATIONAL COLLECTIONS OF NATURAL HISTORY. *Isr. J. Zool.* 35(1/2):82-83. 1988/89. Abstract only. FR 34(2)
[Dep. Zool., Hebrew Univ. & Israel Natl. Collections Nat. Hist., 9190M Jerusalem, Israel]

89-002649 Seehorn, Monte E. THE INFLUENCE OF SILVICULTURAL PRACTICES ON FISHERIES MANAGEMENT: EFFECTS AND MITIGATION MEASURES. U.S. For. Serv. Gen. Tech. Rep. SO-65. p. 54-63. 1987. FR 34(2)
[U.S. For. Serv., 508 Oak St., NW, Gainesville, GA 30501]

89-002650 Servais, Pierre and Gilles Billen. IMPACT OF A NUCLEAR POWER PLANT ON PRIMARY PRODUCTION AND BACTERIAL HETEROTROPHIC ACTIVITY IN THE RIVE MEUSE AT TIHANGE (BELGIUM). *Arch. Hydrobiol.* 114(3):415-429. 1989. In English with French summ. FR 34(2)
[Groupe Microbiol. Milieux Aquat., Univ. Libre Brussels, Campus Plaine, CP 221, blvd Triomphe, 1050 Brussels, Belgium]

89-002651 Shields, F. Douglas, Jr. ENDOW, AN EXPERT SYSTEM FOR STREAM RESOURCE MANAGEMENT. *Restoration Manage. Notes* 6(2):97-98. 1988. FR 34(2)
[U.S. Army Corps Eng., Waterways Exp. Stn., P.O. Box 631, Vicksburg, MS 39180-0631]

89-002652 Sjors, Hugo. HYDRO-ELECTRIC DEVELOPMENT AS A SET OF ECOLOGICAL FACTORS. In: *Regulated Rivers. Albert Lillehammer and Svein Jakob Saltveit, editors.* p. 133-136. 1984. FR 34(2)
[Inst. Ecol. Bot., P.O. Box 559, S-751 22 Uppsala, Sweden]

89-002653 Thibault, M. [DEBATABLE FACTORS CONCERNING THE ATLANTIC SALMON IN FRANCE.] In: *The Restoration of Salmonid Rivers, M. Thibault and R. Billard, editors.* p. 413-425. 1987. In French with English summ. FR 34(2)
[INRA, Lab. Ecol. Hydrobiol., 65 rue St. Briec, 35042 Rennes Cedex, France] *Salmo salar*.

89-002654 Tondenvold, Erik. THE RIVER SULDALSLAGEN: A CASE STUDY OF THE NORWEGIAN DECISION PROCESS. In: *Regulated Rivers. Albert Lillehammer and Svein Jakob Saltveit, editors.* p. 87-90. 1984. FR 34(2)
[Water Resour. & Electricity Board, Postbox 5091, Majorstua, Oslo 3, Norway]

89-002655 Yelverton, G. Frank. EROSION CONTROL, FISH AND INVERTEBRATE HABITAT ENHANCEMENT HIGHLIGHT RESTORATION OF DREDGE SPOILS (NORTH CAROLINA). *Restoration Manage. Notes* 6(2):97. 1988. FR 34(2)
[Corps Eng., Wilmington Dist., P.O. Box 1890, Wilmington, NC 28402-1890]

HARVEST, CREEL CENSUS, ETC.

89-002656 Arreguin-Sanchez, Francisco. PRESENT STATUS OF THE RED GROUPER FISHERY OF THE CAMPECHE BANK. *Proc. Gulf Caribb. Fish. Inst.* 38:498-509. 1987. FR 34(2)
[Cent. Invest. & Estudios, Avanzados IPN, Unidad Merida, A.P. 73, Cordemex, 97310 Merida, Yucatan, Mexico] *Eplnephelus morio* in Mexico.

89-002657 California Department of Fish and Game. REVIEW OF SOME CALIFORNIA FISHERIES FOR 1987. *Calif. Coop. Oceanic Fish. Invest. Rep.* 29:11-20. 1988. FR 34(2)
[Mar. Resour. Div., 330 Golden Shore, Suite 50, Long Beach, CA 90802] *Engraulis mordax*, *Trachurus symmetricus*, *Scomber japonicus*, *Clupea harengus*, and *Sardinops sagax*.

89-002658 Majkowski, J. and G. Morris. DATA ON SOUTHERN BLUEFIN TUNA (*THUNNUS MACCOYII* (CASTLENAU)): AUSTRALIAN, JAPANESE AND NEW ZEALAND SYSTEMS FOR COLLECTING, PROCESSING AND ACCESSING CATCH, FISHING EFFORT, AIRCRAFT OBSERVATION AND TAG RELEASE/RECAPTURE DATA. *CSIRO Mar. Labs* 179:105p. 1986. From U.S. Government Reports 87(18):18. 1987. Available from NTIS as PB87-196317/GAR. FR 34(2)

89-002659 Oxenford, Hazel A. and Wayne Hunte. LONG-TERM TRENDS IN ABUNDANCE OF THE DOLPHIN (*CORYPHAENA HIPPIRUS*) NEAR BARBADOS. *Proc. C. I. Fish. Res.* 38:510-527. 1987. FR 34(2)

89-002661 Provost, E.; J.-P. Boude and M. Thibault. [FRENCH FOREIGN TRADE IN SALMON (1956-1984).] In: *The Restoration of Salmonid Rivers*. M. Thibault and R. Billard editors. p. 399-405. 1987. In French with English summ. FR 34(2)
[Lab. Ecol. Hydrobiol., 65 rue Edelweiss, 31400 Toulouse, France] *Salmo* spp. in France.

89-002662 Tagart, Jack V. STATUS OF THE YELLOWTAIL ROCKFISH STOCKS IN THE INTERNATIONAL NORTH PACIFIC FISHERY COMMISSION VANCOUVER AND COLUMBIA AREAS. *Wash. Dep. Fish. Tech. Rep.* No. 104. 118p. 1988. Available from Dep. Fish., 115 Gen. Admin. Bldg., Olympia, WA 98504. FR 34(2)
Sebastes flavidus.

89-002663 Tagart, Jack V. and Bruce E. Short. GRAYS HARBOR LINGCOD STUDY. *Wash. Dep. Fish. Tech. Rep.* No. 105. 68p. 1988. Available from Dep. Fish., 115 Gen. Admin. Bldg., Olympia, WA 98504. FR 34(2)
Ophiodon elongatus and *Parophrys vetulus*.

REGULATIONS

89-002664 Howell, Penelope; David Simpson and George Maltezos. EFFECTS OF A LENGTH LIMIT ON THE RECREATIONAL CATCH OF SCUP (*STENOTOMUS CHRYSOPS*) IN CONNECTICUT. *Trans. Northeast Fish Wildl. Conf.* 41. p. 239. 1984. Abstract only. FR 34(2)
[Dep. Environ. Protection, Mar. Fish. Office, Box 248, Waterford, CT 06357]

FISH CONTROL AND REMOVAL

89-002665 Bills, T. D. and L. L. Marking. CONTROL OF NUISANCE POPULATIONS OF CRAYFISH WITH TRAPS AND TOXICANTS. *Prog. Fish-Cult.* 50(2):103-106. 1988. FR 34(2)
[U.S. Fish & Wildl. Serv., Natl. Fish. Res. Cent., P.O. Box 818, La Crosse, WI 54602]

89-002666 Cliff, G. KEEPING SHARKS AT BAY. *Naturalist (South Africa)* 32(3):4-8. 1988. FR 34(2)
[Natal Sharks Board, Private Bag 2, Umhlanga Rocks 4320, South Africa]

89-002667 Cliff, G. SHARK NETTING AND THE NATAL SHARKS BOARD. *Naturalist (South Africa)* 32(3):9-14. 1988. FR 34(2)
[Natal Sharks Board, Private Bag 2, Umhlanga Rocks 4320, South Africa]

89-002668 Harada, Katsuhiko; Yufuki Abe and Tomonori Sugiyama. ACTIVITIES OF CARBOXYLIC ACIDS AND ACIDIC AMINO ACIDS AS REPELLENTS IN THE ORIENTAL WEATHERFISH *MISCURNUS ANGUILLICAUDATUS*. *Bull. Jpn. Soc.*

89-002668 CONTINUED *Sci. Fish.* 54(12):2135-2138. 1988. In English. FR 34(2)
[Dep. Food Sci. & Technol., Shimonoseki Univ. Fish., Shimonoseki 759-65, Japan]

89-002669 Primor, N.; P. Lazarovici; J. Fox; J. Gennaro and H. R. Guy. STRUCTURE AND MODE OF ACTION OF THE SHARK REPELLENT PARDAXIN. *N.Y. Aquarium Osborn Lab. Mar. Sci.* 27p. 1988. From U.S. Government Reports 88(22):214. 1988. Available from NTIS as AD-A195 824/8/GAR. FR 34(2)

MARKING AND TAGGING

89-002670 Armstrong, J. D.; M. Lucas; J. French; L. Vera and I. G. Priede. A COMBINED RADIO AND ACOUSTIC TRANSMITTER FOR FIXING DIRECTION AND RANGE OF FRESHWATER FISH (RAFIX). *J. Fish Biol.* 33(6):879-884. 1988. FR 34(2)
[Dep. Zool., Univ. Aberdeen, Tillydrone Ave., Aberdeen AB9 2TN, Scotland]

89-002671 Gauldie, R. W. TAGGING AND GENETICALLY ISOLATED STOCKS OF FISH: A TEST OF ONE STOCK HYPOTHESIS AND THE DEVELOPMENT OF ANOTHER. *J. Appl. Ichthyol.* 4(4):168-173. 1988. In English with German and French summ. FR 34(2)
[Fish. Res. Cent., Minist. Agric. & Fish., P.O. Box 297, Wellington, New Zealand]
Cheilodactylus macropterus, *Caranx georgianus*, and *Thyrssites otun* in New Zealand.

89-002672 Hilborn, Ray. DETERMINATION OF TAG RETURN FROM RECAPTURED FISH BY SEQUENTIAL EXAMINATION FOR TAGS. *Trans. Am. Fish. Soc.* 117(5):510-514. 1988. FR 34(2)
[Fish. Res. Inst. WH-10, Univ. Wash., Seattle 98195] *Euthynnus pelamis*.

89-002673 Koljonen, M.-L.; J. Koskiniemi and P. Pasanen. ELECTROPHORETIC MARKERS FOR THE WHITEFISH SPECIES PAIR *COREGONUS PALLASI* AND *COREGONUS PELED*. *Aquaculture* 74(3/4):217-226. 1988. FR 34(2)
[Finnish Game & Fish. Res. Inst., Fish. Div., P.O. Box 202, SF-00151, Helsinki, Finland]

89-002674 Marty, Gary D. and Robert C. Summerfelt. INFLAMMATORY RESPONSE OF CHANNEL CATFISH TO ABDOMINAL IMPLANTS: A HISTOLOGICAL AND ULTRASTRUCTURAL STUDY. *Trans. Am. Fish. Soc.* 117(4):401-416. 1988. FR 34(2)
[Dep. Pathol., School Vet. Med., Univ. Calif., Davis 95616] *Ictalurus punctatus*.

89-002675 Nielsen, Jan. A REVIEW ON MARKING AND TAGGING METHODS APPLIED TO EEL (*ANGUILLA ANGUILLA* (L.)). EIFAC (Eur. Inland Fish. Advis. Comm.) Occas. Pap. No. 21. 24p. 1988. FR 34(2)
[Environ. Off., Damhaven 12, DK-7100 Vejle, Denmark]

89-002676 Norton, J. A. FREEZE BRAND MARKING OF STEELHEAD TROUT AND CHINOOK SALMON FROM IDAHO FOR THE 1986 SMOLT MONITORING PROGRAM: 1986 ANNUAL REPORT. *Idaho Dep. Fish Game DOE/BP/16440-2*. 9p. 1986. From U.S. Government Reports 87(23):15. 1987. Available from NTIS as DE87009915/GAR. FR 34(2)
Oncorhynchus tshawytscha and *O. mykiss* in Idaho.

- 89-002678 Prentice, E. F.; D. L. Park; T. A. Flagg and S. McCutcheon. STUDY TO DETERMINE THE BIOLOGICAL FEASIBILITY OF A NEW FISH TAGGING SYSTEM: ANNUAL REPORT, 1985-1986. *Natl. Mar. Fish. Serv. DOE/BP/11982-2*. 98p. 1986. From U.S. Government Reports 87(22):198. 1987. Available from NTIS as DE7009920/GAR. FR 34(2)
- 89-002679 Stanley, C. A. TAGGING EXPERIMENTS ON AUSTRALIAN SALMON (*ARRIPIDACTYLUS TRUTTA ESPER*): RECAPTURE DATA FOR SOUTH AUSTRALIAN RELEASES, 1952 TO 1976. *CSIRO Mar. Labs* 178:50p. 1986. From U.S. Government Reports 87(17):17. 1987. Available from NTIS as PB87-196663/GAR. FR 34(2)
- STOCKING AND INTRODUCTIONS
- 89-002680 Bason, William H. and Robert D. Sander. MARK-RECAPTURE STUDIES AND ENHANCEMENT STOCKING IN THE NANTICOKE AND CHOPTANK RIVERS. *Trans. Northeast Fish Wildl. Conf.* 41. p. 235. 1984. Abstract only. FR 34(2)
[Delmarva Ecol. Lab., Inc., R. D. 1, Box 286, Middletown, DE 19709] *Morone saxatilis*.
- 89-002681 Benndorf, Jurgen; Heinz Schultz; Angela Benndorf; Rainer Unger; Eckhard Penz; Helmut Kneschke; Kathrin Kossatz; Roger Dumke; Uwe Hornig; Rainer Kruspe and Susanne Reichel. FOOD-WEB MANIPULATION BY ENHANCEMENT OF PISCIVOROUS FISH STOCKS: LONG-TERM EFFECTS IN THE HYPERTROPHIC BAUTZEN RESERVOIR. *Limnologica* 19(1):97-110. 1988. In English with German summ. FR 34(2)
[Technische Univ., Sect. Wasserwesen, Bereich Hydrobiol., Mommsenstr. 13, DDR-802 Dresden, East Germany] *Esox lucius* and *Stizostedion lucioperca* in East Germany.
- 89-002682 Bisson, Peter A.; Jennifer L. Nielsen and James W. Ward. SUMMER PRODUCTION OF COHO SALMON STOCKED IN MOUNT ST. HELENS STREAMS 3-6 YEARS AFTER THE 1980 ERUPTION. *Trans. Am. Fish. Soc.* 117(4):322-335. 1988. FR 34(2)
[Weyerhaeuser Co., Technol. Cent., Tacoma, WA 98477] *Oncorhynchus mykiss* and *O. kisutch*.
- 89-002683 Hearn, William E. and Boyd E. Kynard. COMPETITION BETWEEN JUVENILE ATLANTIC SALMON AND RAINBOW TROUT IN THE WHITE RIVER OF VERMONT. *Trans. Northeast Fish Wildl. Conf.* 41. p. 249. 1984. Abstract only. FR 34(2)
[Coop. Fish. Res. Unit, Univ. Mass., Amherst 01003] *Salmo salar* and *Oncorhynchus mykiss*.
- 89-002684 Hesthagen, T. and B. O. Johnson. LAKE SURVIVAL OF HATCHERY AND PRE-STOCKED POND BROWN TROUT, *SALMO TRUTTA* L. *Aquacult. Fish. Manage.* 20(1):91-95. 1989. FR 34(2)
[Norwegian Inst. Nat. Res., Tungasletta 2, N-7004 Trondheim, Norway]
- 89-002685 Hikita, T. [INTRODUCTION OF FISH IN HOKKAIDO.] *Tech. Rep. Hokkaido Salmon Hatchery* No. 157. p. 35. 1988. In Japanese. FR 34(2)

English summ. FR 34(2)
[CSP. DR No. 4, 112 Fbg. Ceuille, 86000 Poitiers, France] *Salmo salar* in France.

89-002688 Seelbach, Paul W. and Gary E. Whelan. IDENTIFICATION AND CONTRIBUTION OF WILD AND HATCHERY STEELHEAD STOCKS IN LAKE MICHIGAN TRIBUTARIES. *Trans. Am. Fish. Soc.* 117(5):444-451. 1988. FR 34(2)
[Dep. Nat. Resour., Inst. Fish. Res., 212 Mus. Annex Bldg., Ann Arbor, MI 48103] *Oncorhynchus mykiss*.

89-002689 St. Pierre, Richard A. COMPARISON OF INTENSIVE HATCHERY CULTURE WITH STOCKING OF PRESPAWN ADULT AMERICAN SHAD FOR THE RESTORATION OF STOCKS TO THE UPPER SUSQUEHANNA RIVER. *Trans. Northeast Fish Wildl. Conf.* 41. p. 240. 1984. Abstract only. FR 34(2)
[U.S. Fish & Wildl. Serv., Harrisburg, PA] *Alosa sapidissima*.

89-002690 Van Densen, W. L. T. and M. P. Grimm. POSSIBILITIES FOR STOCK ENHANCEMENT OF PIKEPERCH (*STIZOSTEDION LUCIOPERCA*) IN ORDER TO INCREASE PREDATION ON PLANKTIVORES. *Limnologica* 19(1):45-49. 1988. In English with German summ. FR 34(2)
[Dep. Fish Cult. & Fish., P.O. Box 338, 6700 AH Wageningen, Netherlands]

89-002691 Winslow, Sara E. and Harrel B. Johnson. NORTH CAROLINA COASTAL STRIPED BASS STOCKING. *Trans. Northeast Fish Wildl. Conf.* 41. p. 234. 1984. Abstract only. FR 34(2)
[Dep. Nat. Resour. & Community Dev., Div. Mar. Fish., Morehead City, NC 28557] *Morone saxatilis*.

FISHING GEAR AND TECHNIQUES

89-002692 Amagai, Kiyoshi. [ON THE THRESHOLD OF THE WARP TENSION IN TRAWL]. *Bull. Jpn. Soc. Sci. Fish.* 55(1):59-64. 1989. In Japanese with English summ. FR 34(2)
[Fac. Fish., Hokkaido Univ., Minato, Hakodate 041, Japan]

89-002693 Dickson, William. COD GILLNET SIMULATION MODEL. *Fish. Res.* 7(1-2):149-174. 1989. FR 34(2)
[Inst. Fish. Technol. Res., P.O. Box 1964, Nordnes, N-5024 Bergen, Norway] *Gadus morhua*.

89-002694 Dickson, William. COD GILLNET EFFECTIVENESS RELATED TO LOCAL ABUNDANCE, AVAILABILITY AND FISH MOVEMENT. *Fish. Res.* 7(1-2):127-148. 1989. FR 34(2)

89-002696 Fukamachi, Tokuzo; Shoji Kabaya; Akira Kubota and Yoshihiro Nagami. SELECTION OF "SAF-27": HOW SAIL AND OUTBOARDS WORK TOGETHER. *Proc. Gulf Caribb. Fish. Inst.* 38:724-731. 1987. FR 34(2)

[Yamaha Motor Co., Ltd., 3380-67 Mukohijima, Arai-cho, Hamana-gun, Shizuoka-ken Japan]

89-002697 Hartman, R. D. and W. H. Hurko. RELATIVE SELECTIVITY OF FIVE COASTAL MARSH SAMPLING GEARS. *Contrib. Mar. Sci.* 30:17-26. 1987. FR 34(2)

[Coop. Fish. & Wildl. Res. Unit, School For. Wildl. & Fish., La. State Univ. Agric. Cent. Baton Rouge 70803]

89-002698 Henry M. E. OBSERVATIONS OF GILL AND TRammel NET FISHING ACTIVITIES BETWEEN PT. BUCHON AND PT. SUR, CALIFORNIA, JUNE-OCTOBER 1985. *Michael E. Henry (Reno, Nev.)* 33p. 1986. From U.S. Government Reports 87(16):14. 1987. Available from NTIS as PB87-184024/GAR. FR 34(2)

89-002699 Hilborn, Ray and Paul Medley. TUNA PURSE-SEINE FISHING WITH FISH AGGREGATING DEVICES (FAD): MODELS OF TUNA FAD INTERACTIONS. *Can. J. Fish. Aquat. Sci.* 46(1):28-32. 1989. In English with French summ. FR 34(2)

[Fish. Res. Inst., WH-10, Univ. Wash., Seattle 98195] *Thunnus albacares* and *Euthynnus pelamis*.

89-002700 Hyman, E. L. FERROCEMENT FISHING BOATS: THEIR POTENTIAL FOR SMALL TO-MEDIUM SCALE FISHING IN LAKE MALAWI. *Appropriate Technol. Int. (Washington D.C.)* 77p. 1986. From U.S. Government Reports 87(22):20. 1987. Available from NTIS as PB87-211983/GAR. FR 34(2)

89-002701 Kobayashi, Hiroshi; Tokuro Nonoda; Isamu Ishikura; Makoto Uchida; Eiichi Hasegawa and Naoki Korko. [STUDIES ON THE REMAINING BAIT ON HOOKS IN DEEP-SEA BOTTOM LONGLINE.] *Bull. Jpn. Soc. Sci. Fish.* 55(1):51-57. 1989. In Japanese with English summ. FR 34(2)

[Fac. Biosour., Mie Univ., Kamihama-cho, Tsu 514, Japan]

89-002702 Nakamura, R. M.; J. S. Akamine; D. E. Coleman and S. N. Takashima. MANAGEMENT OF YELLOWFIN TUNA IN THE HANDLINE FISHING INDUSTRY OF HAWAII: FISH-HANDLING HANDBOOK. *Sea Grant Coll. Program (Univ. Hawaii)* UNHH-5G-AR-88-040p. 1987. From U.S. Government Reports 88(11):20. 1988. Available from NTIS as PB88-168489/GAR. FR 34(2)

Thunnus albacares.

89-002703 Robertson, J. H. B. and P. A. M. Stewart. A COMPARISON OF SIZE SELECTION OF HADDOCK AND WHITING BY SQUARE AND DIAMOND MESH CODENDS. *Cons. Cons. Int. Explor. Mer* 44(2):148-161. 1988. FR 34(2)

[Mar. Lab., P.O. Box 101, Victoria Rd., Aberdeen AB9 8DB, Scotland] *Merlangius merlangus* and *Melanogrammus aeglefinus*.

[Mar. Lab., Aberdeen, Scotland] *Melanogrammus aeglefinus* and *Merlangius merlangus* in Scotland.

89-002705 Rountree, Rodney Alan. ECOLOGY OF THE ASSOCIATION OF FISHES WITH FISH AGGREGATION DEVICES (FADs): IMPORTANCE OF STRUCTURAL COMPLEXITY, WITH A DISCUSSION OF THE ASSOCIATION OF FISHES WITH DRIFT MATERIALS. *M.Sc. thesis, Coll. Charleston* 217p. 1987. From *Masters Abstr. Int.* 27(1):73. 1989. Order No. MA1333393. FR 34(2)

89-002706 Sacchi, Jacques. [EFFICIENCY OF TRAMMEL NETS IN NETTING SOLE: RESULTS OF "LA TENDRESSE" EXPEDITION IN 1987.] *Equinoxe* No. 20. p. 12-18. 1988. In French. FR 34(2)

89-002707 Stewart, P. A. M. and D. N. MacLennan. THE FISH CAPTURE PROCESS - FISHING GEAR TECHNOLOGY. In: *Developments in Fisheries Research in Scotland*. B. S. Bailey and B. B. Parrish, editors. p. 123-138. 1987. FR 34(2)

89-002708 Supan, J. and D. Bankston. FISH TRAWLING IN LOUISIANA INSHORE WATERS. *Sea Grant Coll. Program (Baton Rouge)* 24p. 1989. From U.S. Government Reports 88(21):20. 1988. Available from NTIS as PB88-230784/GAR. FR 34(2)

89-002709 van Densen, W. L. T. GILLNET SELECTIVITY TO PIKEPERCH, *STIZOSTEDION LUCIOPERCA* (L.), AND PERCH, *PERCA FLUVIATILIS* L., CAUGHT MAINLY WEDGED. *Aquacult. Fish. Manage.* 18(1):95-105. 1987. FR 34(2)
[Dep. Fish Cult. & Fish., Agric. Univ., P.O. Box 338, 6700 AH Wageningen, Netherlands]

89-002710 Veal, C. D.; R. Lukens and D. Burrage. 'CHOPSTICKS': INVESTIGATIONS OF THE PUSH-HEAD TRAWL. *Miss.-Ala. Sea Grant Consort. MASGP-85-016*. 39p. 1987. From U.S. Government Reports 87(22):20. 1987. Available from NTIS as PB87-216602/GAR. FR 34(2)

89-002711 Warburton, Kevin. CATCHABILITY VARIATION IN SHORT BEAM TRAWL HAULS. *Fish. Res.* 7(1-2):55-63. 1989. FR 34(2)
[Dep. Zool., Univ. Queensland, St. Lucia, 4067 Qld., Australia]

89-002712 Wardle, C. S. INVESTIGATING THE BEHAVIOUR OF FISH DURING CAPTURE. In: *Developments in Fisheries Research in Scotland*. B. S. Bailey and B. B. Parrish, editors. p. 139-155. 1987. FR 34(2)

89-002713 Wileman, D. A. ASSESSMENT OF DIFFERENT MEANS FOR CALCULATING THE DRAG OF TRAWL NETTING. *Dansk Fiskeriteknol. Inst.* NEI-DK-5. 42p. 1986. From U.S. Government Reports 87(22):20. 1987. Available from NTIS as DE8752110/GAR. FR 34(2)

89-002714 Wileman, D. A. MEASUREMENTS OF THE DRAG OF ELLIPTICAL CONES OF TRAWL NETTING. *Dansk Fiskeriteknol. Inst.* NEI-DK-4. 79p. 1986. From U.S. Government Reports 87(22):20. 1987. Available from NTIS as DE8752109/GAR. FR 34(2)

89-002716 Beanish, R. J. and T. G. Northcote. EXTINCTION OF A POPULATION OF ANADROMOUS PARASITIC LAMPREY, *LAMPETRA TRIDENTATA*, UPSTREAM OF AN IMPASSABLE DAM. *Can. J. Fish. Aquat. Sci.* 46(3):420-425. 1989. In English with French summ. FR 34(2)

[Dep. Fish. & Oceans, Fish. Res. Branch, Pac. Biol. Stn., Nanaimo, BC, Canada V9S 6K6]

89-002717 Congleton, James L. and Eric J. Wagner. EFFECTS OF LIGHT INTENSITY ON PLASMA CORTISOL CONCENTRATIONS IN MIGRATING SMOLTS OF CHINOOK SALMON AND STEELHEAD HELD IN TANKS OR RACEWAYS AND AFTER PASSAGE THROUGH EXPERIMENTAL FLUMES. *Trans. Am. Fish. Soc.* 117(4):385-393. 1988. FR 34(2)

[Coop. Fish & Wildl. Res. Unit, Dep. Fish & Wildl. Resour., Univ. Idaho, Moscow 83843]
Oncorhynchus tshawytscha and *O. mykiss*.

89-002718 Dartiguelongue, J. and M. Larinier. [EVALUATION OF THE MORTALITY RATE OF SMALL FISH PASSING THROUGH HYDRAULIC TURBINES.] In: *The Restoration of Salmonid Rivers*, M. Thibault and R. Billard, editors. p. 175-182. 1987. In French with English summ. FR 34(2)

[CEMAGREF, Div. Qual. Faux, Pêche Piscicult., B.P. 26, 31321 Castanet-Tolosan Cedex France]

89-002719 Pasch, R. W. GALLATIN STEAM-ELECTRIC PLANT: PADDLEFISH INVESTIGATIONS: PROGRESS REPORT. *Tenn. Valley Authority TVA/ONRED/WRF-86/6* 4p. 1986. From U.S. Government Reports 87(13):143. 1987. Available from NTIS as DE87900331/GAR. FR 34(2)

Polyodon spathula in Tennessee.

MATHEMATICS, STATISTICAL METHODS, AND MODELING

89-002720 Allen, K. Radway and W. S. Hearn. SOME PROCEDURES FOR USE IN COHORT ANALYSIS AND OTHER POPULATION SIMULATIONS. *Can. J. Fish. Aquat. Sci.* 46(3):483-488. 1989. In English with French summ. FR 34(2)

[20/8 Waratah St., Cronulla, N.S.W. 2230, Australia]

89-002721 Ault, Jerald S. and William W. Fox, Jr. FINMAN: A FISHERY INSTITUTION MANAGEMENT COMPUTER MODEL FOR SIMULATING THE DECISIONMAKING ENVIRONMENT IN TROPICAL AND SUBTROPICAL REGIONS. *Proc. Gulf Caribb. Fish. Inst.* 38:433-441. 1987. FR 34(2)

[Coop. Inst. Mar. & Atmos. Studies, Rosenstiel School Mar. & Atmos. Sci., Univ. Miami, Miami, FL 33149]

89-002722 Bach, Pascal; Michel Amanieu; Thong Lam Hoai and Gerard Lasserre. [THE APPLICATION OF THE MANDELBROT MODEL OF DISTRIBUTION AND ABUNDANCE FOR ESTIMATING CATCH IN THAU LAGOON.] *J. Cons. Cons. Int. Explor. Mer* 44(3):235-241. 1988. In French with English summ. FR 34(2)

[Lab. Hydrobiol. & Unite Recherche Assoc. CNRS, Univ. Sci. Languedoc, 34095 Montpellier Cedex, France]

89-002724 Basson, M.; A. A. Rosenberg and J. R. Beddington. THE ACCURACY AND RELIABILITY OF TWO NEW METHODS FOR ESTIMATING GROWTH PARAMETERS FROM LENGTH-FREQUENCY DATA. *J. Cons. Cons. Int. Explor. Mer* 44(3):277-285. 1988. FR 34(2)

[Renewable Resour. Assessment Group, Cent. Environ. Technol., Imperial Coll., London SW7 1LU, England]

89-002725 Bolger, T. and P. L. Connolly. THE SELECTION OF SUITABLE INDICES FOR THE MEASUREMENT AND ANALYSIS OF FISH CONDITION. *J. Fish Biol.* 34(2):171-182. 1989. FR 34(2)

[Dep. Zool., Univ. Coll., Dublin, Belfield, Dublin 4, Ireland] *Eutrigla gurnardus*.

89-002726 Bordas, M. P.; A. L. de O. Borges and P. Medeiros. [STREAM POWER AND SEDIMENT DEPOSITION IN FLOWING WATER.] *Int. Assoc. Hydrol. Sci. Publ.* No. 174. p. 21-33. 1988. In French with English summ. FR 34(2)

[Inst. Recherches Hydraul. (IPH), Univ. Fed. Rio Grande do Sul, CP, 530, 90001 Porto Alegre, RS, Brazil]

89-002727 Brauer, Fred; David Rollins and A. C. Soudack. HARVESTING IN POPULATION MODELS WITH DELAYED RECRUITMENT AND AGE-DEPENDENT MORTALITY. *Nat. Resour. Model.* 3(1):45-62. 1988. FR 34(2)

[Dep. Math., Univ. Wis., Madison 53706]

89-002728 Brown, B. E. and G. P. Patil. RISK ANALYSIS IN THE GEORGES BANK HADDOCK FISHERY - A PRAGMATIC EXAMPLE. *Trans. Northeast Fish Wildl. Conf.* 41. p. 232. 1984. Abstract only. FR 34(2)

[Northeast Fish. Cent., Natl. Mar. Fish. Serv., Woods Hole, MA 02543] *Melanogrammus aeglefinus*.

89-002729 Campana, Steven E. COMPARISON OF TWO LENGTH-BASED INDICES OF ABUNDANCE IN ADJACENT HADDOCK STOCKS (*MELANOGRAMMUS AEGLEFINUS*) ON THE SCOTIAN SHELF. *J. Cons. Cons. Int. Explor. Mer* 44(1):43-55. 1987. FR 34(2)

[Mar. Fish Div., Bedford Inst. Oceanogr., P.O. Box 1006, Dartmouth, NS, Canada B2 4A2]

89-002730 Cogollo, P. R. J. and S. M. Villela. MATHEMATICAL MODEL FOR RESERVOIR SILTING. *Int. Assoc. Hydrol. Sci. Publ.* No. 174. p. 43-51. 1988. In English with French summ. FR 34(2)

[Escol. Engenharia Sao Carlos, USP, Campos Sao Carlos, Av. Dr. Carlos Botelho 1465, C. P. 359, 13560 Sao Carlos, SP, Brazil]

89-002731 Cole, R.; F. Ward; T. Ward; R. Deitner and J. Fiore. MODEL FOR OPTIMIZATION OF SOCIO-ECONOMIC FISHERY VALUES ON THE RIO GRANDE IN NE MEXICO. *N.M. Water Resour. Res. Inst. WRR1-223*. 258p. 1987. From U.S. Government Reports 88(10):23. 1988. Available from NTIS as PB88-161450/GAR. FR 34(2)

89-002734 Davis, James E. THE USE OF SIMULATION MODELS AS RESOURCE MANAGEMENT TOOLS FOR RESTORING ACIDIFIED WATERS. *Water Air Soil Pollut.* 41(14):435-454. 1988. FR 34(2)
[Environ. Sci. Consult., 2311 Carlmont Dr., Suite 2, Belmont, CA 94002]

89-002735 de L. Sturm, Maxwell G.; Michel Julien-Flus and Jacqueline Maingot. YIELD PER RECRUIT ANALYSIS OF THE MACKEREL FISHERY IN TRINIDAD. *Proc. Gulf Caribb. Fish. Inst.* 38:547-554. 1987. FR 34(2)
[Nat. Resour. Div., Inst. Mar. Affairs, P.O. Box 3160, Carenage, Trinidad
Scomberomorus brasiliensis and *S. cavalla*.

89-002736 Drost, M. R.; J. W. M. Osse and M. Muller. PREY CAPTURE BY FISH LARVAE WATER FLOW PATTERNS AND THE EFFECT OF ESCAPE MOVEMENTS OF PREY. *Neth. J. Zool.* 38(1):23-45. 1988. FR 34(2)
[Dep. Exp. Anim. Morphol. & Cell Biol., Agric. Univ., Marijkeweg 40, 6709 PG Wageningen, Netherlands]

89-002737 Dunkley, D. A. and W. M. Shearer. THE FRESHWATER ENVIRONMENT AND SALMON STOCKS - THE ESTIMATION OF SALMON STOCKS USING ELECTRONIC FISH COUNTERS. In: *Developments in Fisheries Research in Scotland*. B. S. Bailey and B. B. Parrish, editors. p. 197-206. 1987. FR 34(2)

89-002738 Dunning, Dennis J. and Quentin E. Ross. PARAMETERS FOR ASSESSING HUDSON RIVER STRIPED BASS STOCKING. In: *Fish Culture in Fisheries Management*. Richard Stroud, editor. p. 391-397. 1986. FR 34(2)
[N.Y. Power Authority, White Plains] *Morone saxatilis* in New York.

89-002739 Evans, Geoffrey T. and Jake C. Rice. PREDICTING RECRUITMENT FROM STOCK SIZE WITHOUT THE MEDIATION OF A FUNCTIONAL RELATION. *J. Cons. Cons. Int. Explor. Mer* 44(2):111-122. 1988. FR 34(2)
[Dep. Fish. & Oceans, Fish. Res. Branch, P.O. Box 5667, St. John's, NF, Canada A1 5X1]

89-002740 Fang, D.; Y. X. Chen and J. Y. Chen. MODEL EXPERIMENTS ON BED LOADING TRANSPORT IN THE VARIABLE BACKWATER ZONE OF A RESERVOIR. *Int. Assoc. Hydraul. Sci. Publ.* No. 174. p. 53-62. 1988. In English with French summ. FR 34(2)
[Hydraul. Res. Inst., Chengdu Univ. Sci. & Technol., Chengdu, Sichuan Province, China]

89-002741 Farebrother, R. W. MAXIMUM LIKELIHOOD ESTIMATES OF MORTALITY RATE FROM SINGLE-RELEASE TAGGING STUDIES. *J. Cons. Cons. Int. Explor. Mer* 44(3):225-234. 1988. FR 34(2)

89-002743 Flebbe, Patricia A.; Thomas W. Hoekstra and Noel D. Cost. RECENT HISTORICAL AND PROJECTED REGIONAL TRENDS OF TROUT IN THE SOUTHEASTERN UNITED STATES. U.S. For. Serv. Gen. Tech. Rep. RM-160. 19p. 1988. Available from U.S. Dep. Agric., For. Serv., Rocky Mountain For. & Range Exp. Stn., 240 W. Prospect St., Fort Collins, CO 80526. FR 34(2)

[U.S. Dep. Agric., For. Serv., Rocky Mountain For. & Range Exp. Stn., 240 W. Prospect St., Fort Collins, CO 80526] *Salvelinus fontinalis*, *Salmo trutta*, and *Oncorhynchus mykiss*.

89-002744 Frost, Thomas M.; Donald L. DeAngelis; Steven M. Bartell; Donald J. Hall and Stuart H. Hurlbert. SCALE IN THE DESIGN AND INTERPRETATION OF AQUATIC COMMUNITY RESEARCH. In: *Complex Interactions in Lake Communities*. Stephen R. Carpenter, editor. p. 229-260. 1988. FR 34(2)
[Cent. Limnol., Univ. Wis., Madison 53706]

89-002745 Gadjev, G. K. [GENERAL RELATION FOR THE LIMITING EQUILIBRIUM STATE FOR MOBILE NON-COHERENT BEDS.] *Int. Assoc. Hydrol. Sci. Publ.* No. 174. p. 63-70. 1988. In French with English summ. FR 34(2)
[Inst. Recherche & Etude Hydrotech. & Amelioration, 136 Rue "9 Septembre", 1618 Sofia, Bulgaria]

89-002746 Gallaway, Benny J.; William J. Gazey and Lawrence L. Moulton. POPULATION TRENDS FOR THE ARCTIC CISCO (*COREGONUS AUTUMNALIS*) IN THE COLVILLE RIVER OF ALASKA AS REFLECTED BY THE COMMERCIAL FISHERY. *Biol. Pap. Univ. Alaska* No. 24. p. 153-165. 1989. FR 34(2)
[LGI. Ecol. Res. Assoc., Inc., 1410 Cavitt St., Bryan, TX 77801]

89-002747 Gloss, Steven P.; Carl L. Schofield and Ruth E. Sherman. AN EVALUATION OF NEW YORK STATE LAKE LIMING DATA AND THE APPLICATION OF MODELS FROM SCANDINAVIAN LAKES TO ADIRONDACK LAKES. *Water Air Soil Pollut.* 41(1-4):241-278. 1988. FR 34(2)
[Water Res. Cent., Univ. Wyo., Laramie 82071]

89-002748 Hewitt, Roger P. HISTORICAL REVIEW OF THE OCEANOGRAPHIC APPROACH TO FISHERY RESEARCH. *Calif. Coop. Oceanic Fish. Invest. Rep.* 29:27-41. 1988. In English with Spanish summ. FR 34(2)
[NMFS, Southwest Fish. Cent., P.O. Box 271, La Jolla, CA 92038] *Sardinops sagax* and *Engraulis mordax* in California.

89-002749 Hilden, Mikael. ERRORS OF PERCEPTION IN STOCK AND RECRUITMENT STUDIES DUE TO WRONG CHOICES OF NATURAL MORTALITY RATE VIRTUAL POPULATION ANALYSIS. *J. Cons. Cons. Int. Explor. Mer* 44(2):123-134. 1988. FR 34(2)
[Dep. Limnol., Univ. Helsinki, Vuhki, SF-00710 Helsinki, Finland]

YIELD DUE TO UPLAND AND CHANNEL EROSION FROM A LARGE BASIN. *Int. Assoc. Hydrol. Sci. Publ.* No. 174. p. 453-462. 1988. In English with French summ. FR 34(2)
[Inst. Hydromechanics, Univ. Armed Forces Munich, Werner-Heisenberg-Weg 39, D-801 Neubiberg, West Germany]

89-002752 Jeffries, Michael. MEASURING TALLING'S 'ELEMENT OF CHANCE' IN POND POPULATIONS. *Freshwater Biol.* 20(3):383-393. 1988. FR 34(2)
[Dep. For. & Nat. Resour., Univ. Edinburgh, Darwin Bldg., King's Bldg., Mayfield Rd. Edinburgh EH9 3JU, Scotland]

89-002753 Jensen, A. L. SIMULATION OF THE POTENTIAL FOR LIFE HISTORY COMPONENTS TO REGULATE WALLEYE POPULATION SIZE. *Ecol. Model.* 45(1):27-41. 1989. FR 34(2)
[School Nat. Resour., Univ. Mich., Ann Arbor 48109-1115] *Stizostedion vitreum*.

89-002754 Kasprzak, Peter; Jurgen Benndorf; Rainer Koschel and Frieder Recknagel. APPLICABILITY OF THE FOOD-WEB MANIPULATION IN THE RESTORATION PROGRAM OF A HYPERTROPHIC STRATIFIED LAKE: MODEL STUDIES FOR LAKE HAUSSEE (FELDBERG GDR). *Limnologica* 19(1):87-95. 1988. In English with German summ. FR 34(2)
[Akad. Wissenschaften, Zentralinst. Mikrobiol. & Exp. Therapie Abteilung Limnol. Beutenbergstr. 11, DDR-6900 Jena, East Germany]

89-002755 Kerfoot, W. Charles. CASCADING EFFECTS AND INDIRECT PATHWAYS. In: *Predation: Direct and Indirect Impacts on Aquatic Communities*. W. Charles Kerfoot and Andrew Sih, editors. p. 57-70. 1987. FR 34(2)
[Great Lakes Res. Div., Inst. Sci. & Technol. & Dep. Biol., Univ. Mich., Ann Arbor 48109]

89-002756 Kimura, Daniel K. STOCK-RECRUITMENT CURVES AS USED IN THE STOCK REDUCTION ANALYSIS MODEL. *J. Cons. Cons. Int. Explor. Mar* 44(3):253-258. 1988. FR 34(2)
[Northwest & Alaska Fish. Cent., NMFS, Bldg. 4, BIN C15700, 7600 Sand Point Way NE Seattle, WA 98115-6349]

89-002757 Kirkley, James E. and Dale E. Squires. A LIMITED INFORMATION APPROACH FOR DETERMINING CAPITAL STOCK AND INVESTMENT IN A FISHERY. *U.S. Natl. Mar. Fish. Serv. Fish. Bull.* 86(2):339-349. 1988. FR 34(2)
[Coll. William & Mary, Schools Mar. Sci. & Business Admin., Gloucester Point, VA 23062]

89-002758 Leung, PingSun. APPLICATIONS OF SYSTEMS MODELING IN AQUACULTURE. *Aquacult. Eng.* 5(2-4):171-182. 1986. FR 34(2)
[Dep. Agric. & Resour. Econ., Univ. Hawaii, Honolulu 96822]

89-002760 Lewy, Peter. INTEGRATED STOCHASTIC VIRTUAL POPULATION ANALYSIS ESTIMATES AND THEIR PRECISION OF FISHING MORTALITIES AND STOCK SIZES FOR THE NORTH SEA WHITING STOCK. *J. Cons. Cons. Int. Explor. Mer.* 14(3):217-228. 1988. FR 34(2)

[Danish Inst. Fish. & Mar. Res., Charlottenlund Castle, DK-2920 Charlottenlund Denmark]

89-002761 Loefer Hernandez, Ana Beatriz. COMPARATIVE STUDY OF THE RESPONSE OF SIMULATED TEMPERATE AND TROPICAL FISH COMMUNITIES TO FISHERY EXPLOITATION AND ENVIRONMENTAL VARIABILITY. *Ph.D. dissertation, Case Western Res. Univ. (Health Sci.)* 232p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(8):2970. 1989. Order No. DA8920765. FR 34(2)

89-002762 Ludwig, D. and C. J. Walters. A ROBUST METHOD FOR PARAMETER ESTIMATION FROM CATCH AND EFFORT DATA. *Can. J. Fish. Aquat. Sci.* 46(1):137-144. 1989. In English with French summ. FR 34(2)

[Dep. Math. & Zool., Univ. British Columbia, Vancouver, BC, Canada V6T 1W5]

89-002763 McCleave, J. D.; J. J. M. Bedaux; P. G. Doucet; J. C. Jager; J. T. L. Jong W. J. van der Steen and B. Voorzanger. STATISTICAL METHODS FOR ANALYSIS OF PLANKTON AND NEKTON DISTRIBUTION, WITH APPLICATION TO SELECTIVE TIDE-STREAM TRANSPORT OF JUVENILE AMERICAN EELS (*ANGUILLA ROSTRATA*). *J. Cons. Cons. Int. Explor. Mer.* 44(1):90-103. 1987. FR 34(2)

[Dep. Zool. & Migratory Fish Res. Inst., Univ. Maine, Orono 04469]

89-002764 McIntyre, John D. and Reginald R. Reisenbichler. A MODEL FOR SELECTING HARVEST FRACTION FOR AGGREGATE POPULATIONS OF HATCHERY AND WILD ANADROMOUS SALMONIDS. In: *Fish Culture in Fisheries Management*. Richard Stroud, editor. p. 179-189. 1986. FR 34(2)

[U.S. Fish & Wildl. Serv., Natl. Fish. Res. Cent., Seattle, WA] *Oncorhynchus tshawytscha*.

89-002765 McKinney, Matthew J. and Jonathan G. Taylor. WESTERN STATE INSTREAM FLOW PROGRAMS: A COMPARATIVE ASSESSMENT. INSTREAM FLOW INFORMATION PAPER NO. 18. *U.S. Fish Wildl. Serv. Biol. Rep.* 89(2):78p. 1988. Available from Natl. Ecol. Res. Cent., U.S. Fish & Wildl. Serv., Creekside One, 2627 Redwing Rd., Fort Collins, CO 80526-2809. FR 34(2)

[TGS Technol., Inc., P.O. Box 9076, Fort Collins, CO 80525]

89-002766 McNatt, Randy M. POPULATION MODELING ANALYSIS OF TRUCKEE RIVER FLOWS AND THE ENDANGERED CUI-UI (*CHASMISTES CUJUS*) OF PYRAMID LAKE, NEVADA. *Proc. Desert Fishes Council*. 17:147. 1987. Abstract only. FR 34(2)

[U.S. Fish & Wildl. Serv., Reno, NV 89431]

89-002767 Meffe, Gary K. PREDATION AND SPECIES REPLACEMENT IN AMERICAN SOUTHWESTERN FISHES: A CASE STUDY. *Southwest. Nat.* 30(2):173-187. 1985. FR 34(2)

[Dep. Zool., Univ. Fla., Gainesville 32011] *Poeciliopsis occidentalis* and *Gambusia affinis*.

89-002768 Mesterton-Gibbons, Michael. ON THE OPTIMAL POLICY FOR COMBINING HARVESTING OF PREDATOR AND PREY. *Nat. Resour. Model.* 3(1):63-90. 1988. FR 34(2)

Andrew Sih, editors. p. 33-37. 1987. FR 34(2)
[Univ. Biol. Sci., Univ. E. Anglia, Norwich NR4 7T1, England]

89-002771 Neill, William H. and Benny J. Gallaway. "NOISE" IN THE DISTRIBUTIONAL RESPONSES OF FISH TO ENVIRONMENT: AN EXERCISE IN DETERMINISTIC MODELING MOTIVATED BY THE BEAUFORT SEA EXPERIENCE. *Biol. Pap. Univ. Alaska* No. 24. p. 123-130. 1989. FR 34(2)

[Dep. Wildl. & Fish. Sci., Tex. A&M Univ., College Station 77843] *Coregonus autumnalis*.

89-002772 Nelson, D. A. ENVIRONMENTAL IMPACT RESEARCH PROGRAM. USE OF HABITAT EVALUATION PROCEDURES IN ESTUARINE AND COASTAL MARINE HABITATS. *U.S. Army Eng. Waterways Exp. Stn. WES/MP/EL-87-7*. 18p. 1987. From U.S. Government Reports 88(5):146. 1988. Available from NTIS as AD-A185 613/7/GAR FR 34(2)

89-002773 Prager, Michael H. and Alec D. MacCall. REVISED ESTIMATES OF HISTORICAL SPAWNING BIOMASS OF THE PACIFIC MACKEREL, *SCOMBER JAPONICUS*. *Calif. Coop. Oceanic Fish. Invest. Rep.* 29:81-90. 1988. In English with Spanish summ. FR 34(2)

[Dep. Oceanogr., Old Dominion Univ., Norfolk, VA 23529-0276]

89-002774 Robotham V., Hugo and Jorge Castillo P. [BOOTSTRAP METHOD, AN ALTERNATIVE FOR ESTIMATION CONFIDENCE INTERVALS OF RESOURCES SURVEYED BY HYDROACOUSTIC TECHNIQUES.] *Invest. Pesq.* 34:79-83. 1987. In Spanish with English summ. FR 34(2)

[Inst. Fomento Pesquero, Casilla 1287, Santiago, Chile] *Sardinops sagax* in Chile.

89-002775 Sampson, David B. THE STABILITY OF VIRTUAL POPULATION ANALYSIS COHORT SIZE ESTIMATES. *J. Cons. Cons. Int. Explor. Mer* 44(2):135-142. 1988. FR 34(2)

[Mar. Resour. Assessment Group, Imperial Coll., 48 Prince's Gardens, London SW7 1LU England]

89-002776 Schneider, David C. and Richard L. Haedrich. PREDICTION LIMITS OF ALLOMETRIC EQUATIONS: A REANALYSIS OF RYDER'S MORPHOEDAPHIC INDEX. *Can. J. Fish. Aquat. Sci.* 46(3):503-508. 1989. In English with French summ. FR 34(2)

[Ocean Sci. Cent., Memorial Univ., St. John's, NF, Canada A1B 3X7]

89-002777 Shepherd, J. G. AN EXPLORATORY METHOD FOR THE ASSESSMENT OF MULTISPECIES FISHERIES. *J. Cons. Cons. Int. Explor. Mer* 44(2):189-199. 1988. FR 34(2)

[MAFF, Dir. Fish. Res., Fish. Lab., Lowestoft, Suffolk NR33 0HT, England]

89-002778 Slauson, William L. GRAPHICAL AND STATISTICAL PROCEDURES FOR COMPARING HABITAT SUITABILITY DATA. *U.S. Fish Wildl. Serv. Biol. Rep.* 89(6):58p. 1988. Available from U.S. Fish & Wildl. Serv., Natl. Ecol. Res.

89-002779 Smith, Paul E. and H. Geoffrey Moser. CALCULI TIME SERIES: AN OVERVIEW OF FISHES. Calif. Coop. Oceanic Fish. Invest. Rep. 29:66-78. 1988. FR 34(2)
[NMFS, Southwest Fish. Cent., P.O. Box 271, La Jolla, CA 92038] *Engraulis mordax* and *Sardinops sagax* in California

89-002780 Starr, Paul and Ray Hilborn. RECONSTRUCTION OF HARVEST RATES AND STOCK CONTRIBUTION IN GAUNTLET SALMON FISHERIES: APPLICATION TO BRITISH COLUMBIA AND WASHINGTON SOCKEYE (*ONCORHYNCHUS NERKA*). Can. J. Fish. Aquat. Sci. 45(12):2216-2229. 1988. In English with French summ. FR 34(2)
[Dep. Fish. & Oceans, 555 W. Hastings, Vancouver, BC, Canada V3A 4P6]

89-002781 Trivellato, D. and M. Larimer. [THE USE OF HYDRAULIC MODELS TO STUDY FISH FACILITIES ON LARGE RIVERS] In: *The Restoration of Salmonid Rivers*. M. Thibault and R. Billard, editors. p. 149-157. 1987. In French with English summ. FR 34(2)
[INT Toulouse, Lab. Hydrobiol. Banleve, Allée Pr. Soula, 31400 Toulouse, France]

89-002782 Tung, Yeou-Koung and Wade E. Hathhorn. DETERMINATION OF THE CRITICAL LOCATIONS IN A STOCHASTIC STREAM ENVIRONMENT. Ecol. Model. 45(1):43-61. 1989. FR 34(2)
[Water Res. Cent. & Stat. Dep., Univ. Wyo., Laramie 82071]

89-002783 Walling, D. E. and B. W. Webb. THE RELIABILITY OF RATING CURVE ESTIMATES OF SUSPENDED SEDIMENT YIELD: SOME FURTHER COMMENTS. Int. Assoc. Hydrol. Sci. Publ. No. 174. p. 337-350. 1988. In English with French summ. FR 34(2)
[Dep. Geogr., Univ. Exeter, Exeter EX4 4RJ, England]

89-002784 Wicks, J. M.; J. C. Bathurst; C. W. Johnson and T. J. Ward. APPLICATION OF TWO PHYSICALLY-BASED SEDIMENT YIELD MODELS AT PLOT AND FIELD SCALES. Int. Assoc. Hydrol. Sci. Publ. No. 174. p. 523-591. 1988. In English with French summ. FR 34(2)
[Dep. Civil Eng., Univ. Newcastle upon Tyne, Claremont Rd., Newcastle upon Tyne NE 7RU, England]

LAKE MANAGEMENT AND RESEARCH

89-002785 Absher, J. D. and J. R. Collins. SOUTHERN LAKE MICHIGAN SPORTFISHERY ANGLER PROFILES AND SPECIALIZATION INDEX FOR ILLINOIS AND INDIANA. Ill.-Ind. Sea Grant Prog. IL-IN-SG-R-87-2. 160p. 1987. From U.S. Government Reports 87(24):19. 1987. Available from NTIS as PB87-232278/GAR. FR 34(2)

89-002786 Adams, Timothy B. and Robert W. Brocksen. DOSE-RESPONSE RELATIONSHIPS FOR THE ADDITION OF LIMESTONE TO LAKES AND PONDS IN THE NORTHEASTERN UNITED STATES. Water Air Soil Pollut. 41(1-4):137-163.

89-002788 Bartell, S. M.; A. L. Brenkert; R. V. O'Neill and R. H. Gardner. TEMPORAL VARIATION IN REGULATION OF PRODUCTION IN A PELAGIC FOOD WEB MODEL. In: *Complex Interactions in Lake Communities*. Stephen R. Carpenter, editor. p. 101-118. 1988. FR 34(2)

[Environ. Sci. Div., Oak Ridge Natl. Lab., Oak Ridge, TN 37831]

89-002789 Brown, D. J. A.; G. D. Howells, T. R. K. Dalziel and B. R. Stewart. LOCH FLEET - A RESEARCH WATERSHED LIMING PROJECT. *Water Air Soil Pollut.* 41(1-4):25-41. 1988. FR 34(2)

[Cent. Electric. Res. Lab., Kelvin Ave., Leatherland, Surrey KT22 7SE, England] *Salmo trutta*.

89-002790 Brown, D. J. A. THE LOCH FLEET AND OTHER CATCHMENT LIMING PROGRAMS. *Water Air Soil Pollut.* 41(1-4):409-415. 1988. FR 34(2)

[Cent. Electric. Res. Lab., Kelvin Ave., Leatherhead, Surrey KT22 7SE, England]

89-002791 Carpenter, Stephen R., editor. COMPLEX INTERACTIONS IN LAKE COMMUNITIES. *Springer-Verlag* 283p. 1989. FR 34(2)

[Dep. Biol. Sci., Univ. Notre Dame, Notre Dame, IN 46556-0369] Selected chapters indexed in this issue of *Fisheries Review*.

89-002792 Casper, S. Jost, editor. LAKE STECHLIN - A TEMPERATE OLIGOTROPHIC LAKE. *Monogr. Biol.* 58:553p. 1985. FR 34(2)

89-002793 Champigneulle, A.; M. Michoud; D. Gerdeaux; C. Gillet; J. Guillard and R. Rojas-Beltan. [SURVEY OF THE CATCHES OF ARTIC CHARR (*SALVELINUS ALPINUS* L.) SPAWNERS ON THE FRENCH SHORE OF LAKE LEMAN FROM 1982 TO 1987. FIRST DATA ON THE EFFICIENCY OF LAKE-RANCHING WITH CHARR.] *Bull. Fr. Peche Piscic.* 310(3):85-100. 1988. In French with English summ. FR 34(2)

[Stn. Hydrobiol. Lacustre, I.N.R.A., BP 11 F, 75, Ave. Corzent, 74203 Thonon-Les Bains, France]

89-002794 Crowder, Larry B.; Ray W. Drenner; W. Charles Kerfoot; Donald J. McQueen; Edward L. Mills; Ulrich Sommer; Craig N. Spencer and Michael J. Vanni. FOOD WEB INTERACTIONS IN LAKES. In: *Complex Interactions in Lake Communities*. Stephen R. Carpenter, editor. p. 141-160. 1988. FR 34(2)

[Dep. Zool., N.C. State Univ., Raleigh 27695]

89-002795 Dawson, Chad P. and Michael P. Vorland, Jr. THE DEVELOPMENT OF THE LAKE ONTARIO SPORTFISHERY: SOCIOECONOMIC IMPACTS IN NEW YORK STATE. In: *Proceedings of the Symposium on The Great Lakes: Living with North*

89-002797 Edmondson, W. T. and Sally E. B. Abella. UNPLANNED BIOMANIPULATION IN LAKE WASHINGTON. *Limnologica* 19(1):73-79. 1988. In English with German summ. FR 34(2)
[Dep. Zool., NJ-15, Univ. Wash., Seattle 98195] *Spirinchus thaleichthyes* and *Ptychocheilus oregonensis* in Washington.

89-002798 Foster, Ian D. L.; John A. Dearing and Robert Grew. LAKE-CATCHMENTS: AN EVALUATION OF THEIR CONTRIBUTION TO STUDIES OF SEDIMENT YIELD AND DELIVERY PROCESSES. *Int. Assoc. Hydrol. Sci. Publ. No. 174*. p. 413-424. 1988. In English with French summ. FR 34(2)
[Dep. Geogr., Coventry Polytech., Priory St., Coventry CV1 5FB, England]

89-002799 Green, W. R. and H. E. Westerdahl. AQUATIC PLANT CONTROL RESEARCH PROGRAM. PERSISTENCE OF DICHLOBENIL IN LAKE SEMINOLE, GEORGIA. *U.S. Army Eng. Waterways Exp. Stn. Rep. WES/MP/A-88-6*. 25p. 1988. From U.S. Government Reports 88(24):137. 1988. Available from NTIS as AD-A197 464/1/GAR. FR 34(2)

89-002800 Gunn, J. M.; M. J. McNurtry; J. M. Casselman; W. Keller and M. J. Powell. CHANGES IN THE FISH COMMUNITY OF A LIMED LAKE NEAR SUDBURY, ONTARIO: EFFECTS OF CHEMICAL NEUTRALIZATION OR REDUCED ATMOSPHERIC DEPOSITION OF ACIDS? *Water Air Soil Pollut.* 41(1-4):113-136. 1988. FR 34(2)
[Fish. Branch, Ontario Minist. Nat. Resour., Queens Park, Toronto, ON, Canada M7A 1W3] *Micropterus dolomieu*, *Perca flavescens*, *Ictalurus nebulosus*, and *Catostomus commersoni*.

89-002801 Hall, C. M.; A. K. Whitfield and B. R. Allanson. RECRUITMENT, DIVERSITY AND THE INFLUENCE OF CONSTRUCTIONS ON THE DISTRIBUTION OF FISHES IN THE WILDERNESS LAKES SYSTEM, SOUTH AFRICA. *S. Afr. J. Zool.* 22(2):163-169. 1987. In English with Afrikaans summ. FR 34(2)
[Inst. Freshwater Studies, Rhodes Univ., P. O. Box 94, Grahamstown 6140, South Africa]

89-002802 Hickcox, David H., editor. PROCEEDINGS OF THE SYMPOSIUM ON THE GREAT LAKES: LIVING WITH NORTH AMERICA'S INLAND WATERS. *Am. Water Resour. Assoc.* 296p. 1988. FR 34(2)
[Dep. Geogr. & Geol., Ohio Wesleyan Univ., Delaware 43015] Selected chapters indexed in this issue of *Fisheries Review*.

89-002803 Hushak, Leroy J.; Jane M. Winslow and Nilima Dutta. ECONOMIC VALUE OF GREAT LAKES SPORTFISHING: THE CASE OF PRIVATE-BOAT FISHING IN OHIO'S LAKE ERIE. *Trans. Am. Fish. Soc.* 117(4):363-373. 1988. FR 34(2)
[Dep. Agric. Econ. & Rural Sociobiol., Ohio State Univ., Columbus 43210] *Stizostedion vitreum* and *Perca flavescens*.

EUTROPHICATION ASSESSMENT AND MANAGEMENT AT TIIGA, HAMMOND, COWANESQUE
WHITNEY POINT, AND EAST SIDNEY LAKES, PENNSYLVANIA-NEW YORK. U.S. Army Eng
Waterways Exp. Stn. Rep. WES/MP/EL-88-6. 121p. 1988. From U.S. Government Report
88(18):91. 1988. Available from NTIS as AD-A193 422/3:CAR. FR 34(2)

89-002806 Kira, Tatuo. SOME ASPECTS OF ECOLOGICAL WATERSHED MANAGEMENT FOR
THE CONTROL OF EUTROPHICATION. THE CASE OF LAKE BIWA WATERSHED. *Int. J.*
Water Resour. Dev. 4(4):259-269. 1988. FR 34(2)
[Lake Biwa Res. Inst., Otsu, Shiga 520, Japan]

89-002807 Kozlova, I. V. CHANGES IN ZOOPLANKTON COMMUNITIES OF SHALLOW
LAKES, WITHOUT FISH AND WITH CARP, WITH CULTIVATION OF JUVENILE WHITEFISH IN
THEM. *Sov. J. Ecol. (Engl. Transl. Ekologiya)* 19(2):88-92. 1988. FR 34(2)
Coregonus sp. in the USSR.

89-002808 Lammens, Eddy H. R. B. TROPHIC INTERACTIONS IN THE HYPERTROPHIC
LAKE TJEUKEMMER: TOP-DOWN AND BOTTOM-UP EFFECTS IN RELATION TO
HYDROLOGY, PREDATION AND BIOTURBATION DURING THE PERIOD 1974-1985
Limnologia 19(1):81-85. 1988. In English with German summ. FR 34(2)
[Limnol. Inst., de Akkers 47, 8536 VD Oosterzee, Netherlands] *Osmerus eperlanus* and
Abramis brama in the Netherlands.

89-002809 Lapointe, A. [MANAGEMENT AND IMPROVEMENT OF THE OUANICHE OF THE
LAKE ST-JOHN.] In: *The Restoration of Salmonid Rivers*. M. Thibault and R. Billard
editors. p. 159-166. 1987. In French with English summ. FR 34(2)
[MLCP, 150 Est Blvd. Saint-Cyrille, PQ, Canada G1R 4Y1] *Salmo salar* in Canada.

89-002810 Leonard, Donald J. and Rao Manam. REASSESSING ESTIMATES OF GREAT
LAKES CONSUMPTIVE USES AND IMPACTS. In: *Proceedings of the Symposium on The Great
Lakes: Living with North America's Inland Waters*. David H. Hickcox, editor. p. 33-42
1988. FR 34(2)
[N. Cent. Div., U.S. Army Corps Eng., 536 S. Clark St., Chicago, IL 60605]

89-002811 Levine, S. N. and D. W. Schindler. PHOSPHORUS, NITROGEN, AND CARBON
DYNAMICS OF EXPERIMENTAL LAKE 303 DURING RECOVERY FROM EUTROPHICATION
Can. J. Fish. Aquat. Sci. 46(1):2-10. 1989. In English with French summ. FR 34(2)
[Ecosyst. Res. Cent., Corson Hall, Cornell Univ., Ithaca, NY 14853]

89-002812 Lodge, David M.; John W. Barko; David Strayer; John M. Melack; Gary C.
Mittelbach; Robert W. Howarth; Bruce Menge and John E. Titus. SPATIAL HETEROGENEITY
AND HABITAT INTERACTIONS IN LAKE COMMUNITIES. In: *Complex Interactions in Lake
Communities*. Stephen R. Carpenter, editor. p. 181-208. 1988. FR 34(2)
[Dep. Biol. Sci., Univ. Notre Dame, Notre Dame, IN 46556-0369]

89-002815 Marcus, Michael D. DIFFERENCES IN PRE- AND POST-TREATMENT WATER QUALITIES FOR TWENTY LIMED LAKES. *Water Air Soil Pollut.* 41(1-4):279-291. 1988. FR 34(2)

[West. Aquat., Inc., 203 Grand Ave., P.O. Box 546, Laramie, WY 82070]

89-002816 Miller, Daniel J. INTRODUCTIONS AND EXTINCTION OF FISH IN THE AFRICAN GREAT LAKES. *Trends Ecol. Evol.* 4(2):56-59. 1989. FR 34(2)

[Dep. Biol., Univ. Rochester, Rochester, NY 14627]

89-002817 Mills, Edward L. and John L. Forney. TROPHIC DYNAMICS AND DEVELOPMENT OF FRESHWATER PELAGIC FOOD WEBS. In: *Complex Interactions in Lake Communities*. Stephen R. Carpenter, editor. p. 11-30. 1989. FR 34(2)

[Cornell Biol. Field Stn., Bridgeport, NY 13030]

89-002818 Moore, L. and K. Thornton. LAKE AND RESERVOIR RESTORATION GUIDANCE MANUAL: FIRST EDITION. *N. Am. Lake Manage. Soc.* EPA/440/5-89/002. 297p. 1988. FR 34(2)

U.S. Government Reports 22(22):198. 1988. Available from NTIS as PB88-230719/GAR.

89-002819 National Research Council. GREAT LAKES WATER QUALITY AGREEMENT: EVOLVING INSTRUMENT FOR ECOSYSTEM MANAGEMENT. *Natl. Res. Council. (Washington D.C.)* 245p. 1985. From U.S. Government Reports. 87(16):110. 1987. Available from NTIS as PB87-186292/GAR. FR 34(2)

89-002820 Olofsson, H.; P. Blomqvist; H. Olsson and O. Broberg. RESTORATION OF THE PELAGIC FOOD WEB IN ACIDIFIED AND LIMED LAKES BY GENTLE FERTILIZATION. *Limnologica* 19(1):27-35. 1988. In English with German summ. FR 34(2)

[Inst. Limnol., Uppsala Univ., Box 557, S-751 22, Uppsala, Sweden]

89-002821 Persson, Gunnar and Mats Jansson, editors. INTERNATIONAL SYMPOSIUM ON PHOSPHORUS IN FRESHWATER ECOSYSTEMS, UPPSALA, SWEDEN, OCTOBER 1987. *Hydrobiologia* 170:340p. 1988. FR 34(2)

89-002822 Persson, Lennart; Gunnar Andersson; Stellan F. Hamrin and Lars Johansson. PREDATOR REGULATION AND PRIMARY PRODUCTION ALONG THE PRODUCTIVITY GRADIENT OF TEMPERATE LAKE ECOSYSTEMS. In: *Complex Interactions in Lake Communities*. Stephen R. Carpenter, editor. p. 45-65. 1988. FR 34(2)

[Fish Ecol. Res. Group, Dep. Ecol., S-221 00 Lund, Sweden]

89-002823 Porcella, D. B. AN UPDATE ON THE LAKE ACIDIFICATION MITIGATION PROJECT (LAMP). *Water Air Soil Pollut.* 41(1-4):43-51. 1988. FR 34(2)

[Electric Power Res. Inst., 3412 Hillview Ave., Palo Alto, CA 94304] *Salvelinus namaycush* and *S. fontinalis* in New York.

FACTORS AND PISCIVORY IN STRUCTURING FISH ASSEMBLAGES OF SMALL ALBERTA LAKES. *Can. J. Fish. Aquat. Sci.* 46(1):81-89. 1989. In English with French summ. FR 34(2)

[Dep. Zool., Univ. Alberta, Edmonton, AB, Canada T6G 2E9]

89-002827 Sandlund, Odd Terje and Tor E. Naesjo. IMPACT OF A PELAGIC GILL-NET FISHERY ON THE POLYMORPHIC WHITEFISH (*COREGONUS LAVARETUS* L. s.l.) POPULATION IN LAKE FEMUND, NORWAY. *Fish. Res.* 7(1-2):85-97. 1989. FR 34(2)

[Soc. Rural Dev., P.O. Box 115, N-2013 Skjetten, Norway]

89-002828 Scavia, Donald and Gary L. Fahnenstiel. FROM PICOPLANKTON TO FISH: COMPLEX INTERACTIONS IN THE GREAT LAKES. In: *Complex Interactions In Lake Communities*, Stephen R. Carpenter, editor, p. 85-97. 1988. FR 34(2)

[Great Lakes Environ. Res. Lab., NOAA, Ann Arbor, MI 48105]

89-002829 Spodniewska, Irena. PHYTOPLANKTON AS THE INDICATOR OF LAKE EUTROPHICATION. I. SUMMER SITUATION IN 34 MASURIAN LAKES IN 1973. *Ekol. Pol.* 26(1):53-70. 1978. In English with Polish summ. FR 34(2)

[Dep. Hydrobiol., Inst. Ecol., Polish Acad. Sci., Dziekanow Lesny, 05-150 Lomianki Poland]

89-002830 Stein, Roy A.; Stephen T. Threlkeld; Craig D. Sandgren; W. Gary Sprules; Lennart Persson; Earl E. Werner; William E. Noll and Stanley I. Dodson. SIZE STRUCTURED INTERACTIONS IN LAKE COMMUNITIES. In: *Complex Interactions In Lake Communities*, Stephen R. Carpenter, editor, p. 161-179. 1988. FR 34(2)

[Dep. Zool., Ohio State Univ., Columbus 43210-1293]

89-002831 Stevens, C. W. ONTARIO HYDRO IMPACTS ON THE GREAT LAKES - AND VICE VERSA. In: *Proceedings of the Symposium on The Great Lakes: Living with North America's Inland Waters*, David H. Hickey, editor, p. 117-127. 1988. FR 34(2)

[Ontario Hydro, A12-D18, 700 University Ave., Toronto, ON, Canada M5G 1X6]

89-002832 Stockner, John G. and Karen G. Porter. MICROBIAL FOOD WEBS IN FRESHWATER PLANKTONIC ECOSYSTEMS. In: *Complex Interactions In Lake Communities*, Stephen R. Carpenter, editor, p. 69-83. 1988. FR 34(2)

[Canada Fish. & Oceans, W. Vancouver Lab., West Vancouver, BC, Canada V7V 1N6]

89-002635 Todd, Malcolm J. and John W. Kangas. GREAT LAKES WATER MANAGEMENT. In: *Proceedings of the Symposium on The Great Lakes: Living America's Inland Waters*. David H. Hickox, editor. p. 93-102. 1988. FR 34(2)

[Great Lakes Regulation Sect., U.S. Army Corps Eng., N. Cent. Div., 536 Chicago, IL 60605-1592]

89-002636 Welch, Harold E.; John A. Legault and Hedy J. Kling. PHYTO NUTRIENTS, AND PRIMARY PRODUCTION IN FERTILIZED AND NATURAL SAQVAQUAC, N.W.T. *Can. J. Fish. Aquat. Sci.* 46(1):90-107. 1989. In French summ. FR 34(2)

[Dep. Fish. & Oceans, Freshwater Inst., 501 University Crescent, Winnipeg R3T 2N6]

89-002837 Zdanowski, Boguslaw; Maria Brinska; Anna Korycka; Jozefa Sosna Radziej and Jerzy Zachwieja. THE INFLUENCE OF MINERAL FERTILIZATION PRODUCTIVITY OF LAKES. *Ekol. Pol.* 26(2):153-192. 1978. In English with Po 34(2)

[Inland Fish. Inst., Olsztyn-Kortowo, Bldg. 5, 10-957 Olsztyn, Poland]

RIVER AND STREAM MANAGEMENT AND RESEARCH

89-002838 Aass, Per. AGE, GROWTH AND YIELD OF BROWN TROUT, (*Salmo trutta* L.) IN THE RIVER HALLINGDALELV, EASTERN NORWAY. In: *Regulated Rivers in Norway*. Lillehammer and Svein Jakob Saltveit, editors. p. 351-363. 1994. FR 34(2)

[Fish Res. Div., Fish & Wildl. Agency, Box 63, 1432 As, Norway]

89-002839 Al-Ansari, N. A. and G. T. Al-Sinawi. PERIODICITY OF SUSPENDED SOLIDS CONCENTRATIONS IN THE RIVER TIGRIS AT BAGHDAD IDENTIFIED BY INTERVAL SAMPLING. *Int. Assoc. Hydrol. Sci. Publ.* No. 174. p. 353-357. 1978. In French summ. FR 34(2)

[Dep. Geol., Coll. Sci., Univ. Baghdad, Baghdad, Iraq]

89-002840 Allen, S.; J. Putera and C. Jazdzewski. PACIFIC NORTHWEST RIVER HABITAT IMPROVEMENT: IMPLEMENTATION PLAN, FY 1988-1992. *Bonneville Basin* DOE/BP-17579-1. 36p. 1988. From U.S. Government Reports 88(23):22. 1988. NTIS as DE88008500/GAR. FR 34(2)

89-002841 Andrews, J. and L. B. Everson. MIDDLE FORK AND UPPER FORK OF THE RIVER HABITAT IMPROVEMENT: IMPLEMENTATION PLAN, FY 1988-1992. *Bonneville Basin* DOE/BP-17579-1. 36p. 1988. From U.S. Government Reports 88(23):22. 1988. NTIS as DE88008500/GAR. FR 34(2)

Regulated Rivers. Albert Elmehammer and Steven James Carter, eds. pp. 100-103. 1988.
FR 34(2)
[IBA River Lab., East Stoke, Dorset BH20 6BB, England]

89-002843 Arnold, Dean E.; William D. Skinner and David E. Spotts. EVALUATION OF
THREE EXPERIMENTAL LOW-TECHNOLOGY APPROACHES TO ACID MITIGATION
IN HEADWATER STREAMS. *Water Air Soil Pollut.* 41(1-4):385-406. 1988. FR 34(2)
[U.S. Fish & Wildl. Serv., Coop. Fish & Wildl. Res. Unit, Penn. State Univ., 7 Fergus
Bldg., University Park 16802]

89-002844 Baekken, Torleif; Arne Fjellheim and Roald Larsen. BENTHIC ANIMAL
PRODUCTION IN A WEIR BASIN AREA IN WESTERN NORWAY. In: *Regulated Rivers. Alps
Lillehammer and Svein Jakob Saltveit, editors.* p. 223-232. 1984. FR 34(2)
[Dep. Anim. Ecol., Zool. Mus., N-5014 Bergen Univ., Bergen, Norway]

89-002845 Bagliniere, J. L.; P. Prouzet; J. P. Porcher; A. Nihouarn and G. Mais
[GENERAL CHARACTERISTICS OF ATLANTIC SALMON (*SALMO SALAR* L.) POPULATION
IN THE RIVERS OF THE ARMORICAIN MASSIF.] In: *The Restoration of Salmonid Rivers.*
Thibault and R. Billard, editors. p. 23-37. 1987. In French with English summ. FR 34(2)
[INRA, Lab. Ecol., Hydrobiol., 65 rue St. Briec, 35042 Rennes Cedex, France]

89-002846 Bailey, R. G. AN APPRAISAL OF THE FISHERIES OF THE SUDD WETLAND
RIVER NILE, SOUTHERN SUDAN. *Aquacult. Fish. Manage.* 20(1):79-89. 1989. FR 34(2)
[Biosphere Sci. Div., King's Coll. London, Kensington Campus, Campden Hill Rd.
London W8 7AH, England]

89-002847 Bart, Henry L., Jr. FISH HABITAT ASSOCIATION IN AN OZARK STREAM.
Environ. Biol. Fishes 24(3):173-186. 1989. FR 34(2)
[Dep. Ecol., Ethol. & Evol., Univ. Ill., Urbana 61801]

89-002848 Beall, E. and C. Marty. [OPTIMIZATION OF THE NATURAL REPRODUCTION OF
ATLANTIC SALMON IN A SPAWNING CHANNEL: EFFECT OF FEMALE DENSITY.] In: *The
Restoration of Salmonid Rivers.* M. Thibault and R. Billard, editors. p. 231-238. 1987.
French with English summ. FR 34(2)
[INRA, Lab. Ecol. Poissons, B.P. 3, St. Pee-sur-Nivelle, 64310 Ascaïn, France] *Salmo
salar*.

89-002849 Bhowmik, Nani G.; J. Rodger Adams and Misganaw Demissie. SEDIMENTATION
OF FOUR REACHES OF THE MISSISSIPPI AND ILLINOIS RIVERS. *Int. Assoc. Hydrol. Sci.
Publ. No. 174.* p. 11-19. 1988. In English with French summ. FR 34(2)
[State Water Surv., 2204 Griffith Dr., Champaign, IL 61820]

89-002850 Bielak, A. T. and G. Power. [USE OF HISTORICAL DATA TO ESTIMATE
ATLANTIC SALMON STOCKS: EXAMPLES IN SOME CANADIAN RIVERS.] In: *The
Restoration of Salmonid Rivers.* M. Thibault and R. Billard, editors. p. 103-113. 1987.
French with English summ. FR 34(2)
[Fed. Quebecoise Saumon Atlantique, 1900 Blvd. Charest Ouest, Bur. 225, Ste. Foy,
Canada G1N 4K8] *Salmo salar* in Canada.

89-002852 Bonassi, P. and F. Travade. [PROJECT OF SALMON REPOPULATION IN THE UPPER ALLIER RIVER: EXPERIMENTS ON THE DOWNSTREAM MIGRATION OF THE POUTES DAM IN 1993 AND 1994.] In: *The Restoration of Salmonid Rivers and R. Billard, editors.* p. 163-194. 1987. In French with English summ. FR 34(2). [CSP, DR No. 6, 84 Ave. Puy-de-Dome, 63000 Clermont-Ferrand, France France.

89-002853 Bonneville Power Administration. ENVIRONMENTAL ASSESSMENT (BONNEVILLE POWER ADMINISTRATION'S) PROPOSED FUNDING OF LOWER RIVER ANADROMOUS SALMONID PASSAGE ENHANCEMENT PROJECTS, FY 1983. *Power Admin.* DOE/EA-0222. 60p. 1983. From U.S. Government Reports & Publications. Available from NTIS as DE85003253/GAR. FR 34(2)

89-002854 Bonneville Power Administration. ENVIRONMENTAL ASSESSMENT (BONNEVILLE POWER ADMINISTRATION'S) PROPOSED FUNDING OF SALMONID SPAWNING AND REARING HABITAT IMPROVEMENT ACTIVITIES, FY 1983. *Bonneville Power Admin.* DOE/EA-0213. 49p. 1983. From U.S. Government Reports & Publications. Available from NTIS as DE89009318/GAR. FR 34(2)

89-002855 Bonneville Power Administration. NATURAL PROPAGATION IMPROVEMENT: VOLUME 1, OREGON: FINAL AND ANNUAL REPORTS, FY 1983. *Power Admin.* DOE/BP-868. 595p. 1986. From U.S. Government Reports & Publications. Available from NTIS as DE87014620/GAR. FR 34(2)

89-002856 Borgstrom, Reidar and Trygve Lokensgard. INFLUENCE OF DOWNSTREAM GRADIENT ON FISH COMMUNITY COMPOSITION IN THE REGA GLAMA, NORWAY. In: *Regulated Rivers. Albert Lillehammer and Svein Jakobsen, editors.* p. 341-350. 1984. FR 34(2). [Agric. Univ., 1432 As, Norway]

89-002857 Bousquet, B. and A. Marty. [A REVIEW OF DATA OF NATURAL POPULATIONS IN THE ADOUR BASIN.] In: *The Restoration of Salmonid Rivers and R. Billard, editors.* p. 65-76. 1987. In French with English summ. FR 34(2). [CSP, DR No. 7, Bldg. Pyrenees 2D, 64000 Pau, France] *Salmo salar* in France

89-002858 Brinck, Per. EXPLOITATION AND EXPLORATION OF RUNNINGS IN *Regulated Rivers. Albert Lillehammer and Svein Jakob Saltveit, editors.* p. 199-214. 1984. FR 34(2). [Ecol. Bldg., Univ. Lund, 223 62 Lund, Sweden]

89-002859 Brittain, John E.; Albert Lillehammer and Rune Bildeng. THE WATER TRANSFER SCHEME ON THE BENTHIC MACROINVERTEBRATES OF THE RIVER. In: *Regulated Rivers. Albert Lillehammer and Svein Jakob Saltveit, editors.* p. 199-214. 1984. FR 34(2). [Zool. Mus., Sarsgt. 1, Oslo 5, Norway]

89-002862 Brusven, Marilyn A. THE DISTRIBUTION AND ABUNDANCE OF BENTHIC INSECTS SUBJECTED TO RESERVOIR-RELEASE FLOWS IN THE CLEARWATER RIVER, IDAHO, USA. In: *Regulated Rivers*. Albert Lillehammer and Svein Jakob Saltveit, editors. p. 167-180. 1984. FR 34(2)

[Dep. Plant, Soil & Entomol. Sci., Univ. Idaho, Moscow 83843]

89-002863 Bryant, Mason D. GRAVEL PIT PONDS AS HABITAT ENHANCEMENT FOR JUVENILE COHO SALMON. U.S. For. Serv. Gen. Tech. Rep. PNW-212. 10p. 1988. FR 34(2)
Oncorhynchus kisutch in Alaska.

89-002864 Buell, J. W. STREAM HABITAT ENHANCEMENT EVALUATION WORKSHOP: SYNTHESIS OF VIEWS: LEVEL I WORKSHOP: MARCH 1986, HOOD RIVER, OREGON. Bonneville Power Admin. DOE/BP/G1982-T1. 93p. 1986. From U.S. Government Reports 87(24):18. 1987. Available from NTIS as DE87009903/GAR. FR 34(2)

89-002865 Burcham, Janet. FISH COMMUNITIES AND ENVIRONMENTAL CHARACTERISTICS OF TWO LOWLAND STREAMS IN COSTA RICA. *Rev. Biol. Trop.* 36(2):273-285. 1988. In English with Spanish summ. FR 34(2)
[730 S.E. Alexander, Corvallis, OR 97333]

89-002866 Butorin, Nikolaj V. and Andrej V. Monakow. THE EFFECT OF THE VOLGA FLOOD REGULATION ON BIOLOGICAL PROCESSES. In: *Regulated Rivers*. Albert Lillehammer and Svein Jakob Saltveit, editors. p. 515-519. 1984. FR 34(2)
[Inst. Biol., Acad. Sci. USSR, 152742 Borok Yaroslavl Region, USSR]

89-002867 Campbell, R. N. B.; D. M. Rimmer and D. Scott. THE EFFECT OF REDUCED DISCHARGE ON THE DISTRIBUTION OF TROUT. In: *Regulated Rivers*. Albert Lillehammer and Svein Jakob Saltveit, editors. p. 407-416. 1984. FR 34(2)
[Zool. Dep., Univ. Otago, Box 56, Dunedin, New Zealand]

89-002868 Carlson, R. F. SEASONAL FREQUENCY AND DURATIONAL ASPECTS OF STREAMFLOW IN SOUTHEAST AND COASTAL ALASKA. *Univ. Alaska Water Res. Cent. FHWA/AF/RD-87/22*. 30p. 1987. From U.S. Government Reports 88(21):21. 1988. Available from NTIS as PB88-233663/GAR. FR 34(2)

89-002869 Carter, G. R. and T. M. Cavender. UTILIZATION OF OHIO RIVER SHALLOW WATER HABITATS BY YOUNG-OF-THE-YEAR FISHES. *Water Resour. Cent. Ohio State Univ.* OWRT-A-064-OHIO(1). 113p. 1984. From U.S. Government Reports 87(20):195. 1988. Available from NTIS as PB87-207148/GAR. FR 34(2)

89-002870 Cavitte, J. P.; J. P. Andrieu; A. Bruzy; P. Beaudelin; Ph. Derenne and J. Gayou. [PROGRAM FOR THE RESTORATION OF ATLANTIC SALMON (*SALMO SALAR*) IN THE GARONNE BASIN.] In: *The Restoration of Salmonid*

- 89-002671 Charania, S. H. A STRATEGY FOR ORGANIZING A COLLECTION NETWORK BASED ON THE AVAILABLE HYDROLOGICAL CATCHMENT IN KENYA. *Int. Assoc. Hydrol. Sci. Publ.* No. 174. p. English with French summ. FR 34(2)
[Min. St. Water Dev. Kenya, P.O. Box 90534, Mombasa, Kenya]
- 89-002672 Chaumont, G. N. and V. Legendre. [ENHANCEMENT OF THE FISH QUOTE.] In: *The Restoration of Salmonid Rivers*, M. Thibault and R. Billard, editors. p. 115-123. 1987. In French with English summ. FR 34(2)
[Fed. Quebecoise Saumon Atlantique, 1900 Blvd. Charest Ouest, Bur. 1, Canada G1N 4K5] *Salmo salar* in Canada.
- 89-002673 Clark, R. M.; A. H. Vicory and J. A. Goodrich. GREAT OHIO RIVER: A CASE STUDY. U.S. Environ. Protection Agency EPA/600/D-89/001. From U.S. Government Reports 88(18):93. 1989. Available from NTIS as FR 34(2)
- 89-002674 Cline, Leo D. and James V. Ward. BIOLOGICAL AND PHYSICAL CHANGES DOWNSTREAM FROM CONSTRUCTION OF A SUBALPINE DAM IN COLORADO, U.S.A. In: *Regulated Rivers*, Albert Lillehammer and Svein Eide, editors. p. 233-243. 1984. FR 34(2)
[Colo. State Univ., Fort Collins 80523]
- 89-002675 Cooper, S. D.; T. M. Jenkins and C. Soiseth. INTEGRATED STUDY: AN INVESTIGATION OF FISH AND AMPHIBIAN POPULATIONS OF THE EMERALD LAKE BASIN, SEQUOIA NATIONAL PARK. *Dep. Biol. Res.* ARB/R-89/359. 109p. 1988. From U.S. Government Reports 88(23):204. 1988. NTIS as PB88-246293/GAR. FR 34(2)
- 89-002676 Corey, J. C. REMOTE SENSING AT SAVANNAH RIVER. *Sav. Rep.* MS-86-155. 17p. 1986. From U.S. Government Reports 87(24):176. 1987. NTIS as DE87011175/GAR. FR 34(2)
- 89-002677 Cote, Y. and Nicole Beaulieu. [RESTORATION AND IMPROVEMENT OF THE POTENTIAL OF THE MITIS RIVER.] In: *The Restoration of Salmonid Rivers*, M. Thibault and R. Billard, editors. p. 167-174. 1987. In French with English summ. FR 34(2)
[Assoc. Pecheurs Commer. Saumon Quebec, 8 rue Gare, CP 36, Ste. Foy, Canada GDA 3M3] *Salmo salar* in France.
- 89-002678 Cunat, R. and P. Bomassi. [SALMON IN THE LOIRE AND THE SEINE: EVALUATION FROM 1979 TO 1985.] In: *The Restoration of Salmonid Rivers*, M. Thibault and R. Billard, editors. p. 39-51. 1987. In French with English summ. FR 34(2)
[CSP, DR No. 6, 84 Ave. Puy-de-Dome, 63000 Clermont-Ferrand, France]
- 89-002679 de Oliveira Carvalho, Newton. SEDIMENT YIELD IN THE VELHO RIO (MINAS GERAIS, BRAZIL). *Int. Assoc. Hydrol. Sci. Publ.* No. 174. p. English with French summ. FR 34(2)

- 89-002881 Dore, Mary Ellen and Dale R. Weinrich. THE SITUATION OF AMERICAN SHAD IN THE LOWER SUSQUEHANNA RIVER. *Trans. Northeast Fish Wildl. Conf.* 41, p. 237. 1994. Abstract only. FR 34(2)
[Dep. Nat. Resour., Fish. Div., 580 Taylor Ave., C-2, Annapolis, MD 21401] *Alosa sapidissima*.
- 89-002882 Drago, E. C. and M. L. Amsler. SUSPENDED SEDIMENT AT A CROSS SECTION OF THE MIDDLE PARANA RIVER: CONCENTRATION, GRANULOMETRY AND INFLUENCE OF THE MAIN TRIBUTARIES. *Int. Assoc. Hydrol. Sci. Publ.* No. 174, p. 381-396. 1988. In English with French summ. FR 34(2)
[Inst. Nac. Limnol. (CONICET), J. Macia 1933, 3016 Santo Tome (Sta. Fe), Argentina]
- 89-002883 Dumas, J. and J. Casaubon. [STUDY AND ENHANCEMENT OF THE ATLANTIC SALMON (*SALMO SALAR* L.) POPULATION IN THE NIVELLE RIVER (PYRENEES-ATLANTIQUES).] In: *The Restoration of Salmonid Rivers*, M. Thibault and R. Billard editors, p. 221-230. 1987. In French with English summ. FR 34(2)
[INRA, Lab. Ecol. Poissons, St. Pee-sur-Nivelle, 64310 Ascain, France] *Salmo salar* in France.
- 89-002884 Eidt, Conrad H. NIAGARA'S PROGRAM FOR REDUCTION OF PRIORITY POLLUTANTS TO THE NIAGARA RIVER. In: *Proceedings of the Symposium on The Great Lakes: Living with North America's Inland Waters*, David H. Hickcox, editor, p. 189-200. 1988. FR 34(2)
[Regional Municipality Niagara, 2201 St. David's Rd., Thorold, ON, Canada L2V 4T7]
- 89-002885 Eider, J. F.; S. D. Flagg and H. C. Mattraw. HYDROLOGY AND ECOLOGY OF THE APALACHICOLA RIVER, FLORIDA: A SUMMARY OF THE RIVER QUALITY ASSESSMENT. *U.S. Geol. Surv. Water Supply Pap.* 2196:54p. 1988. From U.S. Government Reports 88(23):153. 1988. Available from NTIS as PB88-239827/GAR. FR 34(2)
- 89-002886 England, R. H. FISHERIES MANAGEMENT ON GEORGIA NATIONAL FORESTS. *U.S. For. Serv. Gen. Tech. Rep.* SO-65, p. 68-71. 1987. FR 34(2)
[Dep. Nat. Resour., Game & Fish Div. Gainesville, GA 30501]
- 89-002887 Ergenzinger, Peter. THE NATURE OF COARSE MATERIAL BED LOAD TRANSPORT. *Int. Assoc. Hydrol. Sci. Publ.* No. 174, p. 207-216. 1988. In English with French summ. FR 34(2)
[Inst. Physische Geogr., Freie Univ. Berlin, Grunewaldstr. 35, 1000 Berlin 41, West Germany]
- 89-002888 Evensen, Tor Henning. MIGRATIONS OF BROWN TROUT (*SALMO TRUTTA* L.) AT A WEIR BASIN IN A REGULATED RIVER IN WESTERN NORWAY. In: *Regulated Rivers*, Albert Lillehammer und Svein Jakob Saltveit,

- 89-002890 Fausch, Kurt D. TESTS OF COMPETITION BETWEEN NATIVE AND INTRODUCED SALMONIDS IN STREAMS: WHAT HAVE WE LEARNED? *Can. J. Fish. Aquat. Sci.* 45(12):2238-2246. 1988. In English with French summ. FR 34(2)
[Dep. Fish. & Wildl. Biol., Colo. State Univ., Fort Collins 80523]
- 89-002891 Fielder, P. C. and C. M. Peven. JUVENILE SALMONID MONITORING AT RO ISLAND DAM BYPASS SAMPLER: ANNUAL REPORT. *Public Utility Dist. No. 1 (Washington)* 47p. 1986. From U.S. Government Reports 87(13):147. 1987. Available from NTIS DE87003090/GAR. FR 34(2)
Oncorhynchus spp. and *O. mykiss* in Washington.
- 89-002892 Fournel, Francoise; G. Euzenat and J. L. Fagard. [SEA TROUT AND SALMON RIVERS IN THE HIGHLANDS OF NORMANDY: REALITIES AND PERSPECTIVES. THE CASE OF THE BRESLE RIVER.] In: *The Restoration of Salmonid Rivers*. M. Thibault and R. Billard, editors. p. 315-325. 1987. In French with English summ. FR 34(2)
[CSP, DR No. 1, Stn. Salmonicole, Rue Fontaines, 76260 Eu, France] *Salmo salar* and *trutta* in France.
- 89-002893 Frenette, M. [IMPORTANCE OF HYDROLOGY IN THE RESTORATION AND MANAGEMENT OF SALMON RIVERS.] In: *The Restoration of Salmonid Rivers*. M. Thibault and R. Billard, editors. p. 195-207. 1987. In French with English summ. FR 34(2)
[Univ. Laval, Fac. Sci., Dep. Genie Civil, Cite Universitaire, Ste. Foy, PQ, Canada G1K 7P4] *Salmo salar* in Canada.
- 89-002894 Garcia de Jalon, Diego. STREAM REGULATION IN SPAIN. In: *Regulated Rivers*. Albert Lillehammer and Svein Jakob Saltveit, editors. p. 481-494. 1984. FR 34(2)
[Dep. Zool. & Entomol., Ciudad Univ., Madrid 3, Spain]
- 89-002895 Goulding, Michael. AMAZONIAN FISHERIES. In: *The Dilemma of Amazon Development*. Emilio F. Moran, editor. p. 199-210. 1983. FR 34(2)
[Inst. Nac. Pesquisas Amazonia, Manaus, Brazil]
- 89-002896 Govoni, John J.; Donald E. Hoss and David R. Colby. THE SPATIAL DISTRIBUTION OF LARVAL FISHES ABOUT THE MISSISSIPPI RIVER PLUME. *Limnol. Oceanogr.* 34(1):178-187. 1989. FR 34(2)
[NMFS, NOAA, Southeast Fish. Cent., Beaufort Lab., Beaufort, NC 28516] *Brevortyx patronus* and *Leiostomus xanthurus*.
- 89-002897 Graynoth, Eric. EFFECTS OF HYDROELECTRIC DEVELOPMENT ON FISHERIES OF THE WAITAKI RIVER, NEW ZEALAND. In: *Regulated Rivers*. Albert Lillehammer and Svein Jakob Saltveit, editors. p. 427-436. 1984.

89-002899 Grelsson, Gunnar. COMPARISON OF VEGETATION STABILITY ON TWO RIVER BANKS, SUBJECT TO SHORT-TERM WATER-LEVEL REGULATION, AT THE RIVER UMEÄLVEN IN NORTHERN SWEDEN. In: *Regulated Rivers. Albert Lillehammer and Svein Jakob Saltveit, editors.* p. 125-132. 1984. FR 34(2)
[Dep. Ecol. Bot., Univ. Umea, S-901 87 Umea, Sweden]

89-002900 Guinard, C. and J. Fain. [THE ALLIER RIVER AND ITS UNFLOODABLE AREAS: ONE OF THE LAST NATURAL RIVER SYSTEMS: PROPOSITIONS FOR ITS MANAGEMENT.] In: *The Restoration of Salmonid Rivers. M. Thibault and R. Billard, editors.* p. 393-398. 1987. In French with English summ. FR 34(2)
[Fed. Dep. Environ. & Nat. Puy-de-Dome, 41 rue A. France, 63000 Clermont-Ferrand France]

89-002901 Gustard, Alan. THE CHARACTERISATION OF FLOW REGIMES FOR ASSESSING THE IMPACT OF WATER RESOURCE MANAGEMENT ON RIVER ECOLOGY. In: *Regulated Rivers. Albert Lillehammer and Svein Jakob Saltveit, editors.* p. 53-60. 1984. FR 34(2)
[Inst. Hydrol., Gifford, Wallingford, Oxon OX10 8BB, England]

89-002902 Guyot, J. L.; J. Bourges; R. Hoorelbecke; M. A. Roche; H. Calle; J. Cortes and M. C. Barragan Guzman. [SEDIMENT DISCHARGE FROM THE ANDES TO THE AMAZONIA ALONG THE BENI RIVER.] *Int. Assoc. Hydrol. Sci. Publ. No. 174.* p. 443-451. 1988. In French with English summ. FR 34(2)
[Mission ORSTOM, CP 8714, La Paz, Bolivia]

89-002903 Halliwell, David B. CHANGES IN FISH SPECIES OCCURRENCE IN TRIBUTARIES TO THE MILLERS RIVER, MASSACHUSETTS - COINCIDENT WITH ACIDIFICATION, 1953-1983. *Trans. Northeast Fish Wildl. Conf.* 41. p. 228. 1984. Abstract only. FR 34(2)
[Div. Fish. & Wildl., Field Headquarters, Westboro, MA 01581]

89-002904 Heggnes, Jan. EFFECTS OF SHORT-TERM FLOW FLUCTUATIONS ON DISPLACEMENT OF, AND HABITAT USE BY, BROWN TROUT IN A SMALL STREAM. *Trans. Am. Fish. Soc.* 117(4):336-344. 1988. FR 34(2)
[Dep. Nat. Conserv., Agric. Univ. Norway, Box 39, 1439 As-NLH, Norway] *Salmo trutta* in Norway.

89-002905 Holand, M. [ECO-ETHOLOGICAL ASPECTS OF STOCKING JUVENILE SALMONIDS IN A NATURAL ENVIRONMENT.] In: *The Restoration of Salmonid Rivers. M. Thibault and R. Billard, editors.* p. 265-272. 1987. In French with English summ. FR 34(2)
[INRA, Lab. Ecol. Poissons, St. Pee-sur-Nivelle, 64310 Ascaïn, France] *Salmo salar*.

89-002908 Hickman, Terry J. ESTABLISHING FLOW REQUIREMENTS FOR THE FISHES OF THE VIRGIN RIVER. *Proc. Desert Fishes Council*. 16:38-39. 1987. English and Spanish abstract only. FR 34(2)
[West. Ecosyst., St. George, UT] *Platypharodon argenteus*, *Gila robusta seminuda*, and *Lepidosteus osseus* in Utah.

89-002909 Holden, A. V. CHANGES IN WATER QUALITY IN SCOTTISH RIVER SYSTEMS. In: *Developments In Fisheries Research in Scotland*. B. S. Bailey and B. B. Parr, editors. p. 220-231. 1987. FR 34(2)

89-002910 Hynes, H. B. N. RUNNING WATERS AND MANKIND. In: *Regulated Rivers*. Albert Lillehammer and Svein Jakob Saltveit, editors. p. 15-21. 1984. FR 34(2)
[Dep. Biol., Univ. Waterloo, Waterloo, ON, Canada N2L 3G1]

89-002911 Ikonen, Erkki. MIGRATORY FISH STOCKS AND FISHERY MANAGEMENT IN REGULATED FINNISH RIVERS FLOWING INTO THE BALTIC SEA. In: *Regulated Rivers*. Albert Lillehammer and Svein Jakob Saltveit, editors. p. 437-451. 1984. FR 34(2)
[Game & Fish. Res. Inst., Box 193, SF-00131 Helsinki, Finland] *Salmo salar*, *S. trutta*, *Coregonus lavaretus*, *Lepomis microlophus*, and *Anguilla anguilla*.

89-002912 Ivahnenko, Tamara I.; John J. Renton and Henry W. Rauch. EFFECTS OF STREAM LIMING ON WATER QUALITY OF TWO STREAMS IN WEST VIRGINIA. *Water Air Soil Pollut.* 41(1-4):331-357. 1988. FR 34(2)
[Dep. Geol. & Geogr., W.Va. Univ., 425 White Hall, Morgantown 26506]

89-002913 James, Gavin. LOWER WAITAKI RIVER SALMON RUNS. *Freshwater Catchment Studies*. 37. p. 19. 1988. FR 34(2)
Oncorhynchus tshawytscha.

89-002914 Janicki, Anthony and Holly S. Greening. THE EFFECTS OF STREAM LIMING ON WATER CHEMISTRY AND ANADROMOUS YELLOW PERCH SPAWNING SUCCESS IN THE MARYLAND COASTAL PLAIN STREAMS. *Water Air Soil Pollut.* 41(1-4):359-383. 1988. FR 34(2)
[Int. Sci. & Technol., Inc., 11260 Roger Bacon Dr., Reston, VA 22090] *Perca flavescens*.

89-002915 Jensen, Frank and Carlo F. Jensen. RESPONSES OF THE BENTHIC FAUNA TO SHORT-TERM LOWERINGS OF THE WATER LEVEL IN A LOWLAND STREAM IN DENMARK. In: *Regulated Rivers*. Albert Lillehammer and Svein Jakob Saltveit, editors. p. 181-190. 1984. FR 34(2)
[Mus. Nat. Hist., Bygning 210, Universitetsparken, DK-8000 Aarhus, Denmark]

AND WOUNDFIN. *Proc. Desert Fishes Council*. 17:118-124. 1987. In English with Spanish summ. FR 34(2)

[Office Endangered Species, U.S. Fish & Wildl. Serv., Albuquerque, NM 87103]

89-002918 Killgore, K. J. and N. H. Douglas. EFFECTS OF SURFACE WATER WITHDRAWAL ON FISHES IN RIVERS OF NORTHEAST LOUISIANA. *U.S. Army Eng. Waterways Exp. Stn. Rep.* WES/TR/EL-88-2. 70p. 1988. From U.S. Government Report 88(14):17. 1988. Available from NTIS as AD-A190 631/5/GAR. FR 34(2)

89-002919 Kucera, P. A. and D. B. Johnson. BIOLOGICAL AND PHYSICAL INVENTORY OF THE STREAMS WITHIN THE NEZ PERCE RESERVATION: JUVENILE STEELHEAD SURVEY AND FACTORS THAT AFFECT ABUNDANCE IN SELECTED STREAMS IN THE LOWER CLEARWATER RIVER BASIN, IDAHO: FINAL REPORT. *Fish. Resour. Manage. (Nez Perce Tribe)* DOE/BP/10068-1. 281p. 1987. From U.S. Government Reports 87(23):129. 1987. Available from NTIS as DE87009919/GAR. FR 34(2)

Oncorhynchus mykiss.

89-002920 Kwak, Thomas J. LATERAL MOVEMENT AND USE OF FLOODPLAIN HABITAT BY FISHES OF THE KANKAKEE RIVER, ILLINOIS. *Am. Midl. Nat.* 120(2):241-249. 1989. FR 34(2)

[Dep. Fish. & Wildl., Univ. Minn., St. Paul 55109] *Esox americanus*, *Lepomis cyanellus* L. humilis, and *Aphredoderus sayanus*.

89-002921 Lai, F. S. and M. T. Lim. A QUANTITATIVE ASSESSMENT OF THE RIVERSCAPE OF SG. ENDAU. *Malay. Nat.* 42(1):26-36. 1989. FR 34(2)

89-002922 Lambert, Thomas R. and James M. Handley. SETTING AN INSTREAM FLOW REQUIREMENT FOR SMALLMOUTH BASS (*MICROPTERUS DOLOMIEUI*). In: *Regulated Rivers*. Albert Lillehammer and Svein Jakob Saltveit, editors, p. 387-394. 1984. FR 34(2)
(Pac. Gas Electric Co., 3400 Crow Canyon Rd., San Ramon, CA 94593)

89-002923 Larson, Douglas W. EFFECTIVENESS OF RESERVOIR RELEASES TO PROVIDE RIVER TEMPERATURES AND FLOWS OPTIMAL FOR PACIFIC SALMON AND STEELHEAD TROUT IN THE PACIFIC NORTHWEST, U.S.A. In: *Regulated Rivers*. Albert Lillehammer and Svein Jakob Saltveit, editors, p. 365-385. 1984. FR 34(2)

[Dep. Army Corps. Eng., P.O. Box 2946, Portland, OR 97208] *Oncorhynchus* spp. and *O. mykiss*.

89-002924 Lenco, M. [PRESENT STATE AND RECENT CHANGES OF THE "GAVE DE PAU" RIVER OBSERVED BY REMOTE SENSING.] In: *The Restoration of Salmonid Rivers*. M. Thibault and R. Billard, editors, p. 95-101. 1987. In French with English summ. FR 34(2)
[Minist. Environ., Deleg. Qual. Vie, 14 Blvd. General Leclerc, 92524 Neuilly-sur-Seine Cedex, France]

89-002927 Lillehammer, Albert and Svein Jakob Saltveit. THE EFFECT OF FISHING ON THE AQUATIC MACROINVERTEBRATE FAUNA OF SULDALSLAGEN, WESTERN NORWAY. In: *Regulated Rivers*. Albert Lillehammer and Jakob Saltveit, editors. p. 201-210. 1984. FR 34(2)
[Zool. Mus., Sarsgt. 1, Oslo 5, Norway]

89-002928 Lin Binwen and Long Yuqian. A STUDY OF THE TOTAL LOAD TRANSPORTED BY THE YELLOW RIVER. *Int. Assoc. Hydrol. Sci. Publ.* No. 174. p. 483-496. 1988. with French summ. FR 34(2)
[Inst. Hydraul. Res., Yellow River Conserv. Comm., P.O. Box 450303, China]

89-002929 Marotz, B. and J. Fraley. INSTREAM FLOWS NEEDED FOR SALMON MIGRATION SPAWNING AND REARING OF RAINBOW AND WESTSLOPE CUTTHROAT IN SELECTED TRIBUTARIES OF THE KOOTENAI RIVER: FINAL REPORT, 1986. *Fish Wildl. Parks* DOE/BP/23666-1. 191p. 1987. From U.S. Government Report 1987. Available from NTIS as DE87009904/GAR. FR 34(2)
Salmo clarki in Montana.

89-002930 Martin Ventura, J. A. [ATLANTIC SALMON IN RIVERS IN THE PIRINEAN MOUNTAINS (ASTURIAS (SPAIN)).] In: *The Restoration of Salmonid Rivers*. M. Thibault and J. A. Martin Ventura, editors. p. 139-144. 1987. In French with English summ. FR 34(2)
[Consejería Agric. Pesca Principado Asturias. Serv. Conserv. Nat., Uria 10, Asturias, Spain] *Salmo salar*.

89-002931 Martin, C. Wayne and R. Dennis Harr. PRECIPITATION AND STREAM WATER CHEMISTRY FROM UNDISTURBED WATERSHEDS IN THE CASCADE MOUNTAINS, OREGON. *Water Air Soil Pollut.* 42(1-2):203-219. 1988. FR 34(2)
[Northeast. For. Exp. Stn., For. Sci. Lab., USDA For. Serv., Durham, NH]

89-002932 Matherne, Anne M. and Karen L. Prestegard. HYDROLOGIC CHARACTERISTICS AS A DETERMINANT OF SEDIMENT DELIVERY IN WATERCOURSE NETWORKS. *Assoc. Hydrol. Sci. Publ.* No. 174. p. 89-96. 1988. In English with French summ.
[Dep. Geol. Sci., Univ. Ill., Chicago 60680-4348]

89-002933 Maffe, Gary K. and Andrew L. Sheldon. THE INFLUENCE OF CHANNEL STRUCTURE ON FISH ASSEMBLAGE COMPOSITION IN SOUTHEASTERN MOUNTAIN STREAMS. *Am. Midl. Nat.* 120(2):225-240. 1988. FR 34(2)
[Univ. Ga. Savannah River Ecol. Lab., Drawer E, Aiken, SC 29801]

89-002934 Miller, A. C.; K. J. Killgore; R. H. King and T. J. Naimo. BIOLOGICAL AND PHYSICAL CONDITIONS AT A NEWLY PLACED GRAVEL BAR HABITAT IN THE KANAWHA RIVER. *U.S. Army Eng. Waterways Exp. Stn. Rep.*

89-002936 Molles, Manuel C., Jr. RECOVERY OF A STREAM INVERTEBRATE COMMUNITY FROM A FLASH FLOOD IN TESQUE CREEK, NEW MEXICO. *Southwest. Nat.* 30(2):279-281, 1985. FR 34(2)

[Dep. Biol., Univ. N.M., Albuquerque 27131]

89-002937 Montana Department of Fish, Wildlife and Parks. PACIFIC NORTHWEST RIVER STUDY: ASSESSMENT GUIDELINES: MONTANA. *Mont. Dep. Fish Wildl. Parks* [DOE/BP-756] 126p. 1987. From U.S. Government Reports 87(24):176. 1987. Available from NTIS as DE8701160/GAR. FR 34(2)

89-002938 Moran, Emilio F., editor. THE DILEMMA OF AMAZONIAN DEVELOPMENT. *Westview Press* 347p. 1983. FR 34(2)

[Dep. Anthropol., Indiana Univ., Bloomington 47405]

89-002939 Morin, P.-P.; J. J. Dodson and F. Y. Dore. [OLFACTION, HEART-RATE CONDITIONING AND RESTORATION OF SALMON IN RIVERS.] In: *The Restoration of Salmonid Rivers*. M. Thibault and R. Billard, editors. p. 203-216. 1987. In French with English summ. FR 34(2)

[Univ. Laval, Pavillon Vachon, Ste. Foy, PQ, Canada G1W 2W5] *Salmo salar*.

89-002940 Nagel, Jerry W. and James E. Deaton. GROWTH AND LONGEVITY OF RAINBOW TROUT IN TWO HEADWATER STREAMS IN NORTHEASTERN TENNESSEE. *J. Tenn. Acad. Sci.* 64(1):9-12. 1989. FR 34(2)

[E. Tenn. State Univ., Johnson City 37614] *Oncorhynchus mykiss*.

89-002941 Nix, J. F.; K. W. Thornton; D. E. Ford and J. Malcolm. STORM EVENT SAMPLING OF TWO LOW ALKALINITY SOUTHWESTERN ARKANSAS STREAMS. *Ouachita Baptist Univ.* EPA/600/3-88/023. 248p. 1988. From U.S. Government Reports 88(20):105. 1988. Available from NTIS as PB88-225107/GAR. FR 34(2)

89-002942 North, E. and P. Hickley. AN APPRAISAL OF ANGLERS' CATCHES IN THE RIVER SEVERN, ENGLAND. *J. Fish Biol.* 34(2):299-306. 1989. FR 34(2)

[Hickley: Severn-Trent Water, Saphire East, 550 Streetsbrook Rd., Solihull B91 1QT, England]

89-002943 Nouh, M. METHODS OF ESTIMATING BED LOAD TRANSPORT RATES APPLIED TO EPIHEMERAL STREAMS. *Int. Assoc. Hydrol. Sci. Publ. No. 174*. p. 107-115. 1988. In English with French summ. FR 34(2)

[Dep. Civil Eng., Coll. Eng., Sultan Qaboos Univ., P.O. Box 32483 Al-Khod, Muscat Sultanate Oman]

89-002944 Nouh, M. TRANSPORT OF SUSPENDED SEDIMENT IN EPHEMERAL CHANNELS. *Int. Assoc. Hydrol. Sci. Publ. No. 174*. p. 97-106. 1988. In English with French summ. FR 34(2)

[Dep. Civil Eng., Coll. Eng., Sultan Qaboos Univ., P.O. Box 32483 Al-Khod, Muscat Sultanate Oman]

55(7.19):296p. 1988. Available from U.S. Fish & Wildl. Serv., Natl. Ecol. Res. Cent., 2021 Redwing Rd., Creekside One, Fort Collins, CO 80526-2899. FR 34(2)
[Cent. Environ. Studies, Ariz. State Univ., Tempe 85287-1201]

89-002946 Olive, L. J. and W. A. Rieger. AN EXAMINATION OF THE ROLE OF SAMPLING STRATEGIES IN THE STUDY OF SUSPENDED SEDIMENT TRANSPORT. *Int. Assoc. Hydrol. Sci. Publ. No. 174*, p. 259-267. 1988. In English with French summ. FR 34(2)

[Dep. Geogr. & Oceanogr., Australian Defence Force Acad., Univ. New South Wales, Campbell, A.C.T. 2600, Australia]

89-002947 Olivry, J. Claude; J. Pierre Bricquet; J. Pierre Thiebaut and Nkamdjou Sigha. [TRANSPORT OF SUSPENDED AND DISSOLVED MATTER IN LARGE RIVERS IN INTERTROPICAL REGIONS: PRELIMINARY RESULTS IN THE BASIN OF THE RIVER CONGO.] *Int. Assoc. Hydrol. Sci. Publ. No. 174*, p. 509-521. 1988. In French with English summ. FR 34(2)

[ORSTOM UR 107, 2051 Ave Val de Montferrand, F-34032 Montpellier Cedex, France]

89-002948 Paller, M. H. and B. M. Saul. EFFECTS OF THERMAL DISCHARGES ON THE DISTRIBUTION AND ABUNDANCE OF ADULT FISHES IN THE SAVANNAH RIVER AND SELECTED TRIBUTARIES: ANNUAL REPORT, NOVEMBER 1984-AUGUST 1985. *Environ. Chem. Sci. Inc.* 159p. 1986. From U S. Government Reports 88(1):143. 1988. Available from NTIS as DE87012945/GAR. FR 34(2)

89-002949 Parker, Randolph S. UNCERTAINTIES IN DEFINING THE SUSPENDED SEDIMENT BUDGET FOR LARGE DRAINAGE BASINS. *Int. Assoc. Hydrol. Sci. Publ. No. 174*, p. 523-532. 1988. In English with French summ. FR 34(2)

[U.S. Geol. Surv., P.O. Box 25046, Denver Fed. Cent., MS415, Denver, CO 80225-0046]

89-002950 Peart, M. R. and D. E. Walling. TECHNIQUES FOR ESTABLISHING SUSPENDED SEDIMENT SOURCES IN TWO DRAINAGE BASINS IN DEVON, UK: A COMPARATIVE ASSESSMENT. *Int. Assoc. Hydrol. Sci. Publ. No. 174*, p. 269-279. 1988. In English with French summ. FR 34(2)

[Dep. Geogr. & Geol., Univ. Hong Kong, Hong Kong]

89-002951 Petreere, Miguel, Jr. ECOLOGY OF THE FISHERIES IN THE RIVER AMAZON AND ITS TRIBUTARIES IN THE AMAZONAS STATE (BRAZIL). *Ph.D. dissertation, Univ. E. Anglia (United Kingdom)* 191p. 1982. From Diss. Abstr. Int. B Sci. Eng. 49(7):2476. 1983. Order No. BRD-82442. FR 34(2)

Colossoma macropomum, *Cichla ocellaris*, and *C. temensis*.

89-002952 Petrosky, C. E. and T. C. Bjornn. RESPONSE OF WILD RAINBOW (*SALMO GAYDNERI*) AND CUTTHROAT TROUT (*S. CLARKI*) TO STOCKED RAINBOW TROUT IN FERTILE AND INFERTILE STREAMS. *Can. J. Fish. Aquat. Sci.* 45(12):2087-2105. 1988. In English with French summ. FR 34(2)

[Dep. Fish & Game, 600 S. Walnut, Boise, ID 83707]

89-002953 Philippart, J. C. [EXTINCTION OF ANADROMOUS SALMONIDS IN THE MEUSE RIVER AND PROSPECTS OF THEIR RESTORATION.] In: *The Restoration of Salmon Rivers*. M. Thibault and R. Billard, editors. p. 125-137. 1987.

- 89-002953 CONTINUED (In French with English summ. FR 34(2)
[Univ. Liege, Serv. Ethol. Utg. 22 Quai Van Beneden, 84020 Liege, Belgium]
- 89-002954 Potvin, P. [SALMON FISHING MANAGEMENT IN QUEBEC RIVERS.] In: *The Restoration of Salmonid Rivers*. M. Thibault and R. Billard, editors. p. 363-375. 1987. In French with English summ. FR 34(2)
[Minist. Loisir, Chasse & Pêche, 150 Est, bd St. Cyrille, PQ, Canada G1R 4Y1] *Salmo salar* in Canada.
- 89-002955 Prestegard, Karen L. MORPHOLOGICAL CONTROLS ON SEDIMENT DELIVERY PATHWAYS. *Int. Assoc. Hydrol. Sci. Publ.* No. 174. p. 533-540. 1989. In English with French summ. FR 34(2)
[Dep. Geol. Sci., Univ. Ill., Chicago 60630-4348]
- 89-002956 Pustelnik, G.; M. Roguet; C. Tinel; J. Soumestre; M. Roux and F. Simonet [HISTORY AND ECOLOGICAL MAP OF THE SALMON-STOCKING CAPACITY OF THE DORDOGNE RIVER.] In: *The Restoration of Salmonid Rivers*. M. Thibault and R. Billard, editors. p. 53-64. 1987. In French with English summ. FR 34(2)
[CSP, DR No. 7, "Croix Rouge", 24200 Sarlat, France] *Salmo salar* in France.
- 89-002957 Ranta, Eeva and Pertti Sevala. EFFECTS OF SHORT-TERM REGULATION ON FISH STOCKS IN THE RIVERS KYRONJOKI AND LAPUANJOKI, FINLAND. In: *Regulated Rivers*. Albert Lillehammer and Svein Jakob Saltveit, editors. p. 395-405. 1984. FR 34(2)
[Natl. Board Waters, Vaasa Dist. Office, Box 262, SF-65101, Vaasa 10, Finland]
- 89-002958 Reash, Rob J. and John H. Van Hassel. DISTRIBUTION OF UPPER AND MIDDLE OHIO RIVER FISHES, 1973-1985: II. INFLUENCE OF ZOOGEOGRAPHIC AND PHYSICOCHEMICAL TOLERANCE FACTORS. *J. Freshwater Ecol.* 4(4):459-476. 1988. FR 34(2)
[Van Hassel: Am. Electric Power Serv. Corp., Environ. Eng. Div., 1 Riverside Plaza Columbus, OH 43216]
- 89-002959 Roux, A. L. THE IMPACT OF EMPTYING AND CLEANING RESERVOIRS ON THE PHYSICO-CHEMICAL AND BIOLOGICAL WATER QUALITY OF THE RHONE DOWNSTREAM OF THE DAMS. In: *Regulated Rivers*. Albert Lillehammer and Svein Jakob Saltveit, editors. p. 61-70. 1984. FR 34(2)
- 89-002960 Saltveit, Svein Jakob and Jan Olav Styrvold. DENSITY OF JUVENILE ATLANTIC SALMON (*SALMO SALAR* L.) AND BROWN TROUT (*SALMO TRUTTA* L.) IN TWO NORWEGIAN REGULATED RIVERS. In: *Regulated Rivers*. Albert Lillehammer and Svein Jakob Saltveit, editors. p. 309-319. 1984. FR 34(2)
[Lab. Freshwater Ecol., Zool. Mus., Univ. Oslo, Sarsgt. 1, Oslo 5, Norway]
- 89-002961 Semmelmann, F. R.; M. P. Bordas and A. E. Lanna. PRELIMINARY ESTIMATION OF BED LOAD USING MEAN GRAIN SIZE DISTRIBUTION DATA. *Int. Assoc. Hydrol. Sci. Publ.* No. 174. p. 293-299. 1988. In English with French summ. FR 34(2)
[Inst. Hydraul. Res. (IPH), Fed. Univ. Rio Grande do Sul, Porto Alegre, RS, Brazil]

FR 34(2)
[Dep. Zool., Univ. Adelaide, Adelaide, S.A. 5000, Australia]

89-002964 Skulberg, Olav M. EFFECTS OF STREAM REGULATION ON
VEGETATION. In: *Regulated Rivers. Albert Lillehammer and Svein Jakob Saltveit*
p. 107-124. 1984. FR 34(2)

[Inst. Water Res., Blindern, Oslo 3, Norway]

89-002965 Specht, W. L. COMPREHENSIVE COOLING WATER STUDY: VOLUME
ECOLOGY. SAVANNAH RIVER PLANT: FINAL REPORT. *Savannah River Lab*
567p. 1987. From U.S. Government Reports 88(22):128. 1988. Available
DE89010404/GAR. FR 34(2)

89-002966 Stanford, Jack A. and James V. Ward. THE EFFECTS OF REGULATION ON
LIMNOLOGY OF THE GUNNISON RIVER: A NORTH AMERICAN CASE HISTORY. In:
Regulated Rivers. Albert Lillehammer and Svein Jakob Saltveit, editors. p.
FR 34(2)

[Univ. Mont., Bigfork 59911]

89-002967 Summers, J. Kevin. HISTORICAL ASSESSMENT OF COMMERCIAL
VARIATION IN THE POTOMAC RIVER. *Trans. Northeast Fish Wildl. Conf.* 41
Abstract only. FR 34(2)

[Martin Marietta Environ. Syst., 9200 Rumsey Rd., Columbia, MD 21045]

89-002968 Sundborg, Ake. BIOGEOGRAPHICAL EFFECTS OF STREAM REGULATION ON
Regulated Rivers. Albert Lillehammer and Svein Jakob Saltveit, editors. p.
FR 34(2)

[Univ. Uppsala, Dep. Physical Geogr., Nyborgsvagen 18B, Box 554, S-751
Sweden]

89-002969 Teixeira, E. C. and S. M. Villela. SOME FACTORS AFFECTING
BED CHANNELS PROTECTED WITH RIPRAP. *Int. Assoc. Hydrol. Sci. Hydrol.*
No. 174. p. 125-132. 1988. In English with French summ. FR 34(2)

[Ria B, n. 77 Jardim Tabayaci, Apt. 23 Bloco C, 13560 Sao Carlos, SP, Brazil]

89-002970 Thibault, M. and R. Billard, editors. [THE RESTORATION OF
RIVERS.] *Inst. Natl. Rech. Agron. (Paris)* 444p. 1987. In French with
Available from INRA, Serv. Publ., Rt. St. Cyr, F-78000, Versailles, France.

[INRA, Dep. Hydrobiol., F-78350 Jouy-en-Josas, France] Selected chapters
this issue of *Fisheries Review*.

89-002971 Tissier, J. [IMPROVEMENT OF THE TOUQUES, A SEA TROUT RIVER
PROSPECTS.] In: *The Restoration of Salmonid Rivers. M. Thibault and R. Billard*
p. 387-392. 1987. In French with English summ.

89-002973 Ulmer, Linda C. MANAGEMENT PLAN FOR THE RAZORBACK SUCKER (*Xyrauchen texanus*) IN CALIFORNIA. *Proc. Desert Fishes Council*. 17:183. 1988. Abstract only. FR 34(2)

89-002974 Varthyanathan, P.; Al Ramanathan and V. Subramanian. EROSION TRANSPORT AND DEPOSITION OF SEDIMENTS BY THE TROPICAL RIVERS OF INDIA. In *Assoc. Hydrol. Sci. Publ.* No. 174. p. 561-574. 1988. In English with French summ. FR 34(2)

[School Environ. Sci., Jawaharlal Nehru Univ., New Delhi 110 057, India]

89-002975 Van Hassel, John H.; Rob J. Reash; Hunting W. Brown; Janet L. Thomas and Raymond C. Matthews, Jr. DISTRIBUTION OF UPPER AND MIDDLE OHIO RIVER FISHES 1973-1985: I. ASSOCIATIONS WITH WATER QUALITY AND ECOLOGICAL VARIABLES. *Freshwater Ecol.* 4(4):441-458. 1988. FR 34(2)

[Am. Electric Power Serv. Corp., Environ. Eng. Div., 1 Riverside Plaza, Columbus, OH 43216]

89-002976 Veiga Pires, L. C.; Lucia O. Ribeiro and A. R. S. R. Coimbra. ANALYTICAL EVALUATION OF BED LOAD TRANSPORT IN A RIVER SUBJECT TO BACKWATER EFFECT: THE CASE OF THE RIVER TROMBETAS. *Int. Assoc. Hydrol. Sci. Publ.* No. 174. p. 133-138. 1988. In English with French summ. FR 34(2)

[ENGE-RIO, Eng. & Consult. S/A, Dep. Eng. Civil, Div. Hidrotecn., Rua Mexico 3, andar, Cent. RJ/RJ CEP: 20031, Brazil]

89-002977 Wahl, David H.; Kathleen Bruner and Larry A. Nielsen. TROPHIC ECOLOGY OF FRESHWATER DRUM IN LARGE RIVERS. *J. Freshwater Ecol.* 4(4):483-491. 1988. FR 34(2)

[Coop. Fish & Wildl. Res. Unit, Dep. Zool., Ohio State Univ., Columbus 43210]
Aplodinotus grunniens.

89-002978 Ward, James V. and Jack A. Stanford. THE REGULATED STREAM AS A TESTING GROUND FOR ECOLOGICAL THEORY. In: *Regulated Rivers. Albert Lillehammer and Svein Jakob Saltveit, editors.* p. 23-38. 1984. FR 34(2)

[Univ. Mont., East Shore, Big Fork 59911]

89-002979 Wilde, E. W. COMPREHENSIVE COOLING WATER STUDY: VOLUME 7. ECOLOGY OF PAR POND, SAVANNAH RIVER PLANT: FINAL REPORT. *Savannah River Lab.* (Aiken SC) DP-1739-7. 227p. 1987. From U.S. Government Reports 88(24):138. 1988. Available from NTIS as DE88010407/GAR. FR 34(2)

89-002980 Wilkinson, Robert N. A HABITAT EVALUATION AND MANAGEMENT PLAN FOR A RIPARIAN ECOSYSTEM. *M.S. thesis, Univ. N. Tex.* 109p. 1988. From Masters Abstr. Int. 27(1):85. 1989. Order No. MA1333573. FR 34(2)

Pomoxis annularis in Texas.

[Dep. Zool., Univ. Adelaide, G.P.O. Box 498, Adelaide, S.A. 5001, Australia]

- 89-002982 Wotton, R. S. STREAM REGULATION AND BLACKFLY LARVAE. In: *Regulated Rivers*. Albert Lillehammer and Svein Jakob Saltveit, editors. p. 245-249. 1984. FR 34(2)
[Univ. London, Goldsmith's Coll., New Cross, London SE14 6NW, England]

- 89-002983 Wright, Richard F. WATER CHEMISTRY: INTERACTION OF STREAM REGULATION AND ACID PRECIPITATION. In: *Regulated Rivers*. Albert Lillehammer and Svein Jakob Saltveit, editors. p. 71-80. 1984. FR 34(2)
[Inst. Water Res., P.O. Box 333, Blindern, Oslo 3, Norway]

- 89-002984 Zdzislaw, Kajak. CHANGES OF RIVER WATER QUALITY IN RESERVOIRS EXEMPLIFIED BY STUDIES IN POLAND. In: *Regulated Rivers*. Albert Lillehammer and Svein Jakob Saltveit, editors. p. 521-531. 1984. FR 34(2)
[Acad. Sci., Inst. Ecol., Dziekanow, Lesny/Warsaw, Poland]

- 89-002985 Zimmerman, Earl G. GENETIC AND PHYSIOLOGICAL CORRELATES IN FISH ADAPTED TO REGULATED STREAMS. In: *Regulated Rivers*. Albert Lillehammer and Svein Jakob Saltveit, editors. p. 273-292. 1984. FR 34(2)
[N. Tex. State Univ., Denton 76203]

- 89-002986 Zimmermann, Henry J. and James V. Ward. A SURVEY OF REGULATED STREAMS IN THE ROCKY MOUNTAINS OF COLORADO, U.S.A. In: *Regulated Rivers*. Albert Lillehammer and Svein Jakob Saltveit, editors. p. 251-262. 1984. FR 34(2)
[Colo. State Univ., Fort Collins 80523]

- 89-002987 Zubalik, S. PACIFIC NORTHWEST RIVERS STUDY ASSESSMENT GUIDELINES WASHINGTON STATE. *Bonneville Power Admin.* DOE/BP-758. 82p. 1986. From U.S. Government Reports 87(24):176. 1987. Available from NTIS as DE87011161/GAR. FR 34(2)

FARM POND AND SMALL IMPOUNDMENT MANAGEMENT AND RESEARCH

- 89-002988 Brief, Stephen Michael. LIMNOLOGY OF A MANIPULATED POND. *M.S. thesis*. Cent. Mich. Univ. 159p. 1988. From Masters Abstr. Int. 27(1):74. 1989. Order MA134396. FR 34(2)
Pimephales promelas in Michigan.

- 89-002989 Grygierek, Eugenia and Blandyna E. Wasilewska. THE FEED FAUNA OF FISH PONDS WITH HEATED AND EXCHANGED WATER. *Ekol. Pol.* 26(1):71-83. 1978. In English with Polish summ. FR 34(2)
[Dep. Pond & River Fish Cult., Inland Fish. Inst., Zabieniec, 05-500 Piaseczno, Poland]

- 89-002990 Satterfield, James R., Jr. and Stephen A. Flickinger. USE OF YEARLING LARGE MOUTH BASS FOR INITIAL STOCKING OF SMALL IMPOUNDMENTS. In: *Fish Culture in Fisheries Management*. Richard Stroud, editor. p. 375-380. 1986. FR 34(2)
Micropterus salmoides in Colorado.

89-002992 Berkofsky, Louis and Morton G. Wurtele, editors. PROGRESS IN DESERT RESEARCH. Rowman Littlefield Publ. 253p. 1987. FR 34(2)

Selected chapters indexed in this issue of *Fisheries Review*.

89-002993 Cooper, James J. and Steven Vigg. SPECIES COMPOSITION AND SEASONAL SUCCESSION OF THE ZOOPLANKTON COMMUNITY OF EUTROPHIC LAHONTAN RESERVOIR NEVADA. *Southwest. Nat.* 30(2):239-252. 1985. FR 34(2)

[Biol. Sci. Cent., Desert Res. Inst., P.O. Box 60220, Reno, NV 89506]

89-002994 Cudlip, L. S.; R. D. French and D. Hickman. BLUE MESA RESERVOIR COLORADO: A HISTORICAL REVIEW OF ITS LIMNOLOGY, 1965-1985. *Bio-Environ. Res.* 87-3. 67p. 1987. From U.S. Government Reports 87(23):130. 1987. Available from NTIS as PB87-219283/GAR. FR 34(2)

89-002995 Day, T. J. EVALUATION OF LONG TERM SUSPENDED SEDIMENT RECORDS FOR SELECTED CANADIAN RIVERS. *Int. Assoc. Hydrol. Sci. Publ.* No. 174. p. 189-195. 1988. In English with French summ. FR 34(2)

[Sediment Sect., Water Resour. Branch, Environ. Canada, Ottawa, ON, Canada K1A 0H3]

89-002996 Garcia, E. P. and F. O. Vignoli. AVERAGE LONG-TERM SEDIMENT DISCHARGE INVESTIGATIONS BASED ON RESERVOIR RESURVEY DATA AND SEDIMENT YIELD RATE FACTORS. *Int. Assoc. Hydrol. Sci. Publ.* No. 174. p. 425-429. 1988. In English with French summ. FR 34(2)

[CETEC, Fund. Cent. Tecnol. Minas Gerais & DAM, Projetos Eng. Ltda., Rua Ouro Preto 1707, Belo Horizonte, cep. 30170, Minas Gerais, Brazil]

89-002997 Gordon, J. A.; R. E. Martin and M. A. Hunter. CENTER HILL RESERVOIR FISHERY STUDY - WATER LEVEL EFFECTS. *Water Resour. Cent., Tenn. Technol. Univ.* 158p. 1986. From U.S. Government Reports 87(17):16. 1987. Available from NTIS as AD A180 359/2/GAR. FR 34(2)

Micropterus punctulatus and *M. dolomieu* in Tennessee.

89-002998 Gracia-Sanchez, Jesus. SUSPENDED SEDIMENT ROUTING ALONG RESERVOIR. *Int. Assoc. Hydrol. Sci. Publ.* No. 174. p. 117-124. 1988. In English with French summ. FR 34(2)

[Inst. Ingenieria, Univ. Nac. Autonoma Mexico, Sec. Hidraul., DF, Mexico,

89-002999 Johnsen, R. C.; L. A. Wood and W. W. Smith. MONITORING OF DOWNSTREAM SALMON AND STEELHEAD AT FEDERAL HYDROELECTRIC FACILITIES, 1986: ANNUAL REPORT. *Natl. Mar. Fish. Serv. Environ. Tech. Serv. Div.* 54p. 1987. From U.S. Government Reports 87(24):175. 1987. Available from NTIS as DE87009922/GAR. FR 34(2)

Oncorhynchus mykiss and *O. spp.*

89-002983 Wright, Richard F. WATER CHEMISTRY: INTERACTION OF STREAM REGULATION AND ACID PRECIPITATION. In: *Regulated Rivers*. Albert Lillehammer and Svein Jakob Saltveit, editors. p. 71-80. 1984. FR 34(2)
[Inst. Water Res., P.O. Box 333, Blindern, Oslo 3, Norway]

89-002984 Zdzislaw, Kajak. CHANGES OF RIVER WATER QUALITY IN RESERVOIRS EXEMPLIFIED BY STUDIES IN POLAND. In: *Regulated Rivers*. Albert Lillehammer and Svein Jakob Saltveit, editors. p. 521-531. 1984. FR 34(2)
[Acad. Sci., Inst. Ecol., Dziekanow, Lesny/Warsaw, Poland]

89-002985 Zimmerman, Earl G. GENETIC AND PHYSIOLOGICAL CORRELATES IN FISH ADAPTED TO REGULATED STREAMS. In: *Regulated Rivers*. Albert Lillehammer and Svein Jakob Saltveit, editors. p. 273-292. 1984. FR 34(2)
[N. Tex. State Univ., Denton 76203]

89-002986 Zimmermann, Henry J. and James V. Ward. A SURVEY OF REGULATED STREAMS IN THE ROCKY MOUNTAINS OF COLORADO, U.S.A. In: *Regulated Rivers*. Albert Lillehammer and Svein Jakob Saltveit, editors. p. 251-262. 1984. FR 34(2)
[Colo. State Univ., Fort Collins 80523]

89-002987 Zubalik, S. PACIFIC NORTHWEST RIVERS STUDY ASSESSMENT GUIDELINES WASHINGTON STATE. *Bonneville Power Admin. DOE/BP-758*. 82p. 1986. From U.S. Government Reports 87(24):176. 1987. Available from NTIS as DE8701161/GAR. FR 34(2)

FARM POND AND SMALL IMPOUNDMENT MANAGEMENT AND RESEARCH

89-002988 Brief, Stephen Michael. LIMNOLOGY OF A MANIPULATED POND. M.S. thesis. *Cent. Mich. Univ.* 159p. 1988. From Masters Abstr. Int. 27(1):74. 1989. Order MA1334396. FR 34(2)
Pimephales promelas in Michigan.

89-002989 Grygierek, Eugenia and Blandyna E. Wasilewska. THE FEED FAUNA OF FISH PONDS WITH HEATED AND EXCHANGED WATER. *Ekol. Pol.* 26(1):71-83. 1978. In Eng. with Polish summ. FR 34(2)
[Dep. Pond & River Fish Cult., Inland Fish. Inst., Zabieniec, 05-500 Piaseczno, Poland]

89-002990 Satterfield, James R., Jr. and Stephen A. Flickinger. USE OF YEARLING LARGEMOUTH BASS FOR INITIAL STOCKING OF SMALL IMPOUNDMENTS. In: *Fish Culture in Fisheries Management*. Richard Stroud, editor. p. 375-380. 1986. FR 34(2)
Micropterus salmoides in Colorado.

89-002991 Beamesderfer, R. C.; B. E. Rieman; J. C. Elliott, A. A. Negro and D. L. Ward. DISTRIBUTION, ABUNDANCE, AND POPULATION DYNAMICS OF NORTHERN SOUTHWESTERN SLAWFISH, WALLEYE, SMALLMOUTH BASS, AND CHANNEL CATFISH IN JOHN DAY RESERVOIR, 1986. ANNUAL PROGRESS REPORT. *Oreg. Dep. Fish Wildl.* DCE/6P-35037-5 126p. 1987. From U.S. Government Reports 87(24).176. 1987. Available from NTIS as DE87011293/GAR. FR 34(2)

Ptychocheilus oregonensis, *Stizostedion vitreum vitreum*, *Micropterus dolomieu*, and *Ictalurus punctatus* in Oregon and Washington.

89-002992 Berkofsky, Louis and Morton G. Wartele, editors. PROGRESS IN DESERT RESEARCH. Rowman Littlefield Publ. 253p. 1987. FR 34(2)

Selected chapters indexed in this issue of *Fisheries Review*.

89-002993 Cooper, James J. and Steven Vigg. SPECIES COMPOSITION AND SEASONAL SUCCESSION OF THE ZOOPLANKTON COMMUNITY OF EUTROPHIC LAHONTAN RESERVOIR, NEVADA. *Southwest. Nat.* 30(2).239-252. 1985. FR 34(2)

[Biol. Sci. Cent., Desert Res. Inst., P.O. Box 60220, Reno, NV 89505]

89-002994 Cudlip, L. S.; R. D. French and D. Hickman. BLUE MESA RESERVOIR, COLORADO: A HISTORICAL REVIEW OF ITS LIMNOLOGY, 1935-1935. *Bio-Environ. REC-ERC-87-3* 67p. 1987. From U.S. Government Reports 87(23).139. 1987. Available from NTIS as PB87-219283/GAR. FR 34(2)

89-002995 Day, T. J. EVALUATION OF LONG TERM SUSPENDED SEDIMENT RECORDS FOR SELECTED CANADIAN RIVERS. *Int. Assoc. Hydrol. Sci. Publ. No. 174*. p. 189-195. 1989. In English with French summ. FR 34(2)

[Sediment Sect., Water Resour. Branch, Environ. Canada, Ottawa, ON, Canada K1A 0H3]

89-002996 Garcia, E. P. and F. O. Vignoli. AVERAGE LONG-TERM SEDIMENT DISCHARGE INVESTIGATIONS BASED ON RESERVOIR RESURVEY DATA AND SEDIMENT YIELD RATE FACTORS. *Int. Assoc. Hydrol. Sci. Publ. No. 174*. p. 425-429. 1989. In English with French summ. FR 34(2)

[CETEC, Fund. Cent. Tecnol. Minas Gerais & DAM, Projetos Eng. Ltda., Rua Ouro Preto 1707, Belo Horizonte, cep. 30170, Minas Gerais, Brazil]

89-002997 Gordon, J. A.; R. E. Martin and M. A. Hunter. CENTER HILL RESERVOIR FISHERY STUDY - WATER LEVEL EFFECTS. *Water Resour. Cent., Tenn. Technol. Univ.* 158p. 1986. From U.S. Government Reports 87(17).16. 1987. Available from NTIS as AD-A180 359/2/GAR. FR 34(2)

Micropterus punctulatus and *M. dolomieu* in Tennessee.

89-002998 Gracia-Sanchez, Jesus. SUSPENDED SEDIMENT ROUTING ALONG A RESERVOIR. *Int. Assoc. Hydrol. Sci. Publ. No. 174*. p. 117-124. 1989. In English with French summ. FR 34(2)

[Inst. Ingenieria, Univ. Nac. Autonoma Mexico, Sec. Hidraul., DF, Mexico.]

89-002999 Johnsen, R. C.; L. A. Wood and W. W. Smith. MONITORING OF DOWNSTREAM SALMON AND STEELHEAD AT FEDERAL HYDROELECTRIC FACILITIES, 1986: ANNUAL REPORT. *Natl. Mar. Fish. Serv. Environ. Tech. Serv. Div.* 54p. 1987. From U.S. Government Reports 87(24).175. 1987. Available from NTIS as DE87003922/GAR. FR 34(2)

Oncorhynchus mykiss and *O. spp.*

89-003002 Lowery, D. R. and F. H. Taylor. FISHERY STATUS ASSESSMENT OF TIMS FORD RESERVOIR WITH MANAGEMENT RECOMMENDATIONS. *Tenn. Valley Authority* TVA/ONRED/AWR-86/58. 53p. 1986. From U.S. Government Reports 87(13):143. 1987. Available from NTIS as DE87900333/GAR. FR 34(2)

89-003003 Mahon, Robin and Mark Ferguson. INVASION OF A NEW RESERVOIR BY FISHES: SPECIES COMPOSITION, GROWTH, AND CONDITION. *Can. Field-Nat.* 95(3):272-275. 1981. FR 34(2)

[Mar. Fish. Div., Bedford Inst. Oceanogr., Dartmouth, NS, Canada B2Y 4A2] *Pimephales notatus*, *Notropis cornutus*, *Semotilus atromaculatus* and *Catostomus commersoni* in Canada.

89-003004 May, B. and T. Weaver. QUANTIFICATION OF HUNGARY HORSE RESERVOIR WATER LEVELS NEEDED TO MAINTAIN OR ENHANCE RESERVOIR FISHERIES: ANNUAL REPORT, 1986. *Mont. Dep. Fish Wildl. Parks* DOE/BP/12659-3. 179p. 1987. From U.S. Government Reports 88(2):119. 1988. Available from NTIS as DE87013981/GAR. FR 34(2)

89-003005 O'Neill, Bill. GLASNOST OVERFLOWS IN SAFER DAMS. *New Sci.* 121(1653):34. 1989. FR 34(2)

89-003006 Pillard, David Alan. PRE-IMPOUNDMENT ESTIMATIONS OF NUTRIENT LOADING TO RAY ROBERTS LAKE AND PREDICTION OF POST-INUNDATION TROPHIC STATUS. *Ph.D. dissertation, Univ. N. Tex.* 404p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(7):2476. 1999. Order No. DA8917039. FR 34(2)

89-003007 Sirisena, H. K. G. and Sena S. De Silva. NEW FISH RESOURCES OF RESERVOIRS IN SRI LANKA. II. FURTHER STUDIES ON A GILLNET FISHERY FOR MINOR CYPRINIDS. *Fish. Res.* 7(1-2):17-29. 1989. FR 34(2)

[Freshwater Fish. Stn., Minist. Fish., Udawalawe, Sri Lanka] *Tilapia mossambica*.

89-003008 Sutherland, R. A. and R. B. Bryan. ESTIMATION OF COLLUVIAL RESERVOIR LIFE FROM SEDIMENT BUDGETING, KATIORIN EXPERIMENTAL BASIN, KENYA. *Int. Assoc. Hydrol. Sci. Publ.* No. 174. p. 549-560. 1988. In English with French summ. FR 34(2)

[Dep. Geogr., Univ. Toronto (Scarborough Campus), Scarborough, ON, Canada M1C 1A4]

89-003009 Warden, R. L. and A. M. Brown. STATUS OF IMPORTANT FISHERIES IN GUNTERVILLE RESERVOIR, 1985: TECHNICAL REPORT SERIES. *Tenn. Valley Authority* TVA/ONRED/AWR-87/26. 40p. 1987. From U.S. Government Reports 88(5):100. 1988. Available from NTIS as DE88900016/GAR. FR 34(2)

89-003011 Burroughs, R. H. and Virginia Lee. NARRAGANSETT BAY POLLUTANT CONTROL: AN EVALUATION OF PROGRAM OUTCOME. *Coastal Manage.* 16(4):363-377. 1988. FR 34(2)

[Dep. Mar. Affairs, Univ. R. I., Kingston 02881]

89-003012 Chesapeake Bay Liaison Office. NUTRIENT CONTROL IN THE CHESAPEAKE BAY: A STATEMENT ISSUED BY THE SCIENTIFIC AND TECHNICAL ADVISORY COMMITTEE (STAC), CHESAPEAKE BAY PROGRAM. *Chesapeake Bay Prog. Sci. Tech. Adv. Committee* 48p. 1986. From U.S. Government Reports 87(20):147. 1987. Available from NTIS as PB87-205035/GAR. FR 34(2)

89-003013 Flemer, D. A.; V. K. Tippie; G. B. Mackiernan; R. B. Biggs and W. Nehls. CHARACTERIZING THE CHESAPEAKE BAY ECOSYSTEM AND LESSONS LEARNED. *Environ. Res. Lab. (Gulf Breeze, Fla.)* EPA/600/D-87/071. 34p. 1987. From U.S. Government Reports 87(14):111. 1987. Available from NTIS as PB87-166930/GAR. FR 34(2)

89-003014 Lucotte, Marc. PHOSPHORUS RESERVOIRS IN THE ST. LAWRENCE ESTUARY. *Can. J. Fish. Aquat. Sci.* 46(1):59-65. 1989. In English with French summ. FR 34(2)

[GEOTOP, Univ. Quebec, C.P. 8898, suc. A, Montreal, PQ, Canada H3C 3P8]

89-003015 Murphy, Michael L.; John F. Thedinga and K. V. Koski. SIZE AND DIET OF JUVENILE PACIFIC SALMON DURING SEAWARD MIGRATION THROUGH A SMALL ESTUARY IN SOUTHEASTERN ALASKA. *U.S. Natl. Mar. Fish. Serv. Fish. Bull.* 86(2):213-222. 1988. FR 34(2)

[Koski: Northwest & Alaska Fish Cent. Auke Bay Lab., NMFS, NOAA, P.O. Box 210, Auke Bay 99821] *Oncorhynchus* spp.

89-003016 Nnaji, S. SOUTH BISCAYNE BAY WATER QUALITY: A TWELVE YEAR RECORD FOR BISCAYNE NATIONAL PARK. *Fla. Agric. Mech. Univ.* NPS/R/RM/SCR-88. 86p. 1988. From U.S. Government Reports 88(19):111. 1988. Available from NTIS as PB88-213715/GAR. FR 34(2)

89-003017 Toner, Richard C. UNRAVELING THE DYNAMICS OF A NEW ENGLAND ECOSYSTEM. *Trans. Northeast Fish Wildl. Conf.* 41. p. 256. 1984. Abstract only. FR 34(2)

[Mar. Res., Inc., 141 Falmouth Heights Rd., Falmouth, MA 02540]

89-003018 U.S. Environmental Protection Agency. HABITAT REQUIREMENTS FOR CHESAPEAKE BAY LIVING RESOURCES. *U.S. Environ. Protection Agency* 230p. 1987. From U.S. Government Reports 88(8):124. 1988. Available from NTIS as PB88-142831/GAR. FR 34(2)

89-003019 Vilas, F. and M. A. Nombela. [ESTUARINE ZONES OF THE GALICIAN COAST AND THE ASSOCIATED ENVIRONMENTS, N.W. OF THE IBERIAN PENINSULA.] *Rev. Cienc. Mar Thalassas* 3(1):7-15. 1985. In Spanish with English summ.

MARINE MANAGEMENT AND RESEARCH

89-003021 Adams, J. A. THE PRIMARY ECOLOGICAL SUB-DIVISIONS OF THE NORTH SEA: SOME ASPECTS OF THEIR PLANKTON COMMUNITIES. In: *Developments in Fisheries Research in Scotland*. B. S. Bailey and B. B. Parrish, editors. p. 165-181. 1987. FR 34(2)

89-003022 Aiken, Karl A. and Milton Haughton. STATUS OF THE JAMAICA REEF FISHERY AND PROPOSALS FOR ITS MANAGEMENT. *Proc. Gulf Caribb. Fish. Inst.* 38:469-484. 1987. FR 34(2)

[Zool. Dep., Univ. West Indies, Mona, Kingston 7, Jamaica]

89-003023 Aksnes, D. L.; J. Aure; S. Kaartvedt; T. Magnesen and J. Richard. SIGNIFICANCE OF ADVECTION FOR THE CARRYING CAPACITIES OF FJORD POPULATIONS. *Mar. Ecol. Prog. Ser.* 50(3):263-274. 1989. FR 34(2)

[Dep. Mar. Biol., Univ. Bergen, N-5065 Blomsterdalen, Norway]

89-003024 Allue, C. [SPECIES COMPOSITION AND COMMUNITY STRUCTURE OF TWO FISHING GROUNDS NEAR BARCELONA (1980 AND 1981).] *Rev. Cienc. Mar. Thalassas* 3(1):57-90. 1985. In Spanish with English summ. FR 34(2)

[Inst. Invest. Pesq. Barcelona, Paseo Nac., s/n-08033-Barcelona, Spain]

89-003025 Anderson, James L. ALLOCATING HARVESTS BETWEEN COMPETING USERS IN FISHERY MANAGEMENT DECISIONS: APPROPRIATE ECONOMIC MEASURES FOR VALUATION. DISCUSSION. *Mar. Fish. Rev.* 49(3):34-35. 1987. FR 34(2)

[Dep. Resour. Econ., Lippitt Hall, Univ. R.I., Kingston 02881]

89-003026 Anderson, Lee G. BRIDGING THE GAP BETWEEN ECONOMIC THEORY AND FISHERIES MANAGEMENT. CAN THE MFCMA PRODUCE ECONOMICALLY RATIONAL MANAGEMENT? *Mar. Fish. Rev.* 49(3):13-25. 1987. FR 34(2)

[Coll. Mar. Studies, Univ. Del., Newark 19716]

89-003027 Armstrong, D. W. and W. B. Hall. THE ASSESSMENT AND MANAGEMENT OF FISH STOCKS: COLLECTION, PROCESSING AND RETRIEVAL OF DATA FROM CATCHES BY SCOTTISH COMMERCIAL FISHING VESSELS OF DEMERSAL FISH SPECIES 1950-1982. In: *Developments in Fisheries Research in Scotland*. B. S. Bailey and B. B. Parrish, editors. p. 19-39. 1987. FR 34(2)

89-003028 Auster, Peter J. A REVIEW OF THE PRESENT STATE OF UNDERSTANDING OF MARINE FISH COMMUNITIES. *J. Northwest Atl. Fish. Sci.* 8:67-75. 1988. FR 34(2)

[NOAA Natl. Undersea Res. Cent., Univ. Conn. Avery Point, Groton 06340]

89-003032 Bane, Nikki and Peter Eldridge. OPTIMIZING FISHERY-INDEPENDENT DATA COLLECTION, MANAGEMENT AND DISSEMINATION THROUGH THE EXPERIMENTAL COOPERATIVE STATE-FEDERAL SEANAP PROGRAM. *Proc. Gulf Caribb. Fish. Inst.* 38:655-663. 1987. FR 34(2)

[Gulf States Mar. Fish. Comm., Ocean Springs, MS 39564]

89-003033 Bertignac, M. [SEA BASS BIOLOGY, EXPLOITATION, AND COMMERCIAL FISHING EFFORTS.] *Equinoxe* No. 19. p. 21-28. 1988. In French. FR 34(2)
Dicentrarchus labrax in Europe.

89-003034 Biseau, A. and E. Gondeaux. [CONTRIBUTION TO THE METHODS OF ARRANGING FISHING FLEETS BY TYPE.] *J. Cons. Cons. Int. Explor. Mer* 44(3):286-296. 1988. In French with English summ. FR 34(2)

[IFREMER, 8 rue Francois Touleec, 56100 Lorient, France]

89-003035 Blaxter, J. H. S. THE EGGS AND LARVAE OF FISH: A CENTURY OF EXPERIMENTAL RESEARCH WITH SPECIAL REFERENCE TO SCOTLAND. In: *Development in Fisheries Research in Scotland*. B. S. Balley and B. B. Parrish, editors. p. 112-122. 1987. FR 34(2)

89-003036 Bortone, S. A.; R. L. Shipp; W. P. Davis and R. D. Nester. ARTIFICIAL REEF DEVELOPMENT ALONG THE ATLANTIC COAST OF GUATEMALA. *Northeast Gulf Sci.* 10(1):45-48. 1988. In English with Spanish summ. FR 34(2)

[Biol. Dep., Univ. W. Fla., Pensacola 32514] Data for 48 species.

89-003037 Bouchon, C.; Y. Bouchon-Navaro; M. Louis and J. Laborel. INFLUENCE OF THE DEGRADATION OF CORAL ASSEMBLAGES ON THE FISH COMMUNITIES OF MARTINIQUE (FRENCH WEST INDIES). *Proc. Gulf Caribb. Fish. Inst.* 38:452-468. 1987. In English with French summ. FR 34(2)

[Lab. Biol. & Physiol. Anim., Univ. Antilles-Guyane BP 592, 97167 Pointe-a-Pitre Guadeloupe, French West Indies]

89-003038 Boulon, R. H. and S. K. Koester. VIRGIN ISLANDS BIOSPHERE RESERVE RESEARCH REPORT NO. 11. UTILIZATION OF THE VIRGIN ISLANDS BIOSPHERE RESERVE BY ARTISANAL FISHERMEN. RESEARCH REPORT NO. 12. SOCIOECONOMIC AND CULTURAL ROLE OF FISHING AND SHELLFISHING IN THE VIRGIN ISLANDS BIOSPHERE RESERVE. *Biosphere Reserve Res. Rep.* No. 11/12. 77p. 1986. From U.S. Government Reports 87(15):16. 1987. Available from NTIS as PB87-182341/GAR. FR 34(2)

89-003040 Boulon, R. H.; J. Beets; E. S. Zullo and M. H. Goodwin. VIRGIN ISLANDS BIOSPHERE RESERVE. RESEARCH REPORT NO. 13. LONG-TERM MONITORING OF FISHERIES IN THE VIRGIN ISLANDS BIOSPHERE RESERVE. RESEARCH REPORT NO. 14. CHARACTERIZATION OF LESSER ANTILLEAN FISHERIES. *Biosphere Reserve Res. Rep.* No. 13/14. 90p. 1986. From U.S. Government Reports 87(15):213-214. 1987. Available from NTIS as PB87-122358/GAR. FR 34(2)

89-003041 Brandon, Marielle. MARINE RECREATIONAL FISHING STATISTICS OF THE U.S. VIRGIN ISLANDS, JANUARY, 1993 TO SEPTEMBER, 1985. *Proc. Gulf Caribb. Fish. Inst.* 38:665-693. 1987. FR 34(2)

[Div. Fish & Wildl., 101 Estate Nazareth, St. Thomas, U.S. Virgin Islands 00802]

89-003042 Brusher, Harold A and Barbara Jayne Palko. RESULTS FROM THE 1984 AND 1985 CHARTERBOAT SURVEYS IN SOUTHEASTERN U.S. WATERS AND THE U.S. CARIBBEAN SEA. *Mar. Fish. Rev.* 49(2):109-117. 1987. FR 34(2)

[Panama City Lab., Southeast Fish. Cent., NMFS, NOAA, 3500 Delwood Beach Rd., Panama City, FL 32407]

89-003043 Burnett-Herkes, James. STRATEGIES FOR DEALING WITH EXCLUSIVE ECONOMIC ZONE JURISDICTION. *Proc. Gulf Caribb. Fish. Inst.* 38:27-30. 1987. FR 34(2)

[Dep. Agric. & Fish., P.O. Box HM834, Hamilton 5, Bermuda]

89-003044 Butler, M. J. A.; J. L. MacNeill and C. B. Fay. A FISHERIES RESOURCE MAPPING AND MANAGEMENT SYSTEM. *Proc. Gulf Caribb. Fish. Inst.* 38:387-404. 1987. In English with French summ. FR 34(2)

[Atlantic Coastal Resour. Inform. Cent., Council Maritime Premiers, Amherst, NS, Canada]

89-003045 Campos, Jose Luis and Omar Munoz-Roure. SPORTFISHING: A COMPLEMENT TO A BALANCED TOURISM PROGRAM FOR THE TROPICAL CARIBBEAN. *Proc. Gulf Caribb. Fish. Inst.* 38:684-687. 1987. FR 34(2)

[Caribbean Fish. Manage. Council, Suite 1108, Banco de Ponce Bldg., Hato Rey, PR 00918-2677]

89-003046 Campos, Jose Luis; Miguel A. Rolon and Omar Munoz-Roure. THE EMERGENCE OF A SWORDFISH FISHERY AROUND PUERTO RICO AND THE VIRGIN ISLANDS. *Proc. Gulf Caribb. Fish. Inst.* 38:615-619. 1987. FR 34(2)

[Caribbean Fish. Manage. Council, Suite 1108, Banco de Ponce Bldg., Hato Rey, PR 00918] *Xiphias gladius*.

89-003047 Caputi, N. and K. Donohue. CHANGES LIKELY IN DATA COLLECTION. *FINS* 21(3):24-25. 1988. FR 34(2)

[Western Australian Mar. Res. Lab., Waterman, W.A., Australia]

Rev. Chil. Hist. Nat. 60(2):131-151. 1987. In English with Spanish summ. FR 34(2)
[Grupo Ecol. Mar., Dep. Biol. Ambiental Poblaciones, Pontificia Univ. Catolica Ch
Casilla 114-D, Santiago, Chile]

89-003049 Conrad, Jon M. THE MAGNUSON FISHERIES CONSERVATION ACT: AN ECONOMIC ASSESSMENT OF THE FIRST 10 YEARS. *Mar. Fish. Rev.* 49(3):3-12. 1987. FR 34(2)
[Dep. Agric. Econ., 310 Warren Hall, Cornell Univ., Ithaca, NY 14853]

89-003050 Cook, B. A. and Richard L. McGaw. INTERDEPENDENCE IN THE BAY OF FUNDY HERRING FISHERY. *Ocean Dev. Int. Law* 19(5):367-379. 1988. FR 34(2)
[Dep. Econ., Univ. New Brunswick, P.O. Box 4400, Fredericton, NB, Canada E3B 5A6]
Clupea harengus harengus.

89-003051 de Chiara, C.; J. M. Clark; D. Weidner and D. Jacobson. LATE DEVELOPMENTS IN LATIN AMERICAN FISHERIES, JULY-DECEMBER 1987. *Natl. Mar. Fish. Serv. NMFS/FIA23-89-19*. 80p. 1987. From U.S. Government Reports 89(20):21. 1987. Available from NTIS as PB88-233762/GAR. FR 34(2)

89-003052 Djama, T. and T. J. Pitcher. COMPARATIVE STOCK ASSESSMENT OF TWO SCIAENID SPECIES, *PSEUDOTOLITHUS TYPUS* (BLEEKER, 1863) AND *PSEUDOTOLITHUS SENEGALENSIS* (VALENCIENNES, 1833) OFF CAMEROON. *Fish. Res.* 7(1-2):111-125. 1988. FR 34(2)
[Minist. Higher Educ. & Sci. Res. (IZR), B.P. 343, Kribi, Cameroon]

89-003053 Dooley, H. D. MARINE ENVIRONMENTAL RESEARCH IN RELATION TO FISHERIES - THE ROLE OF HYDROGRAPHY IN INFLUENCING BIOLOGICAL CONDITIONS IN THE NORTH-WESTERN NORTH SEA. In: *Developments in Fisheries Research in Scotland*, S. Bailey and B. B. Parrish, editors. p. 156-164. 1987. FR 34(2)

89-003054 Dremiere, P. Y. [ALBACORE GILL NET FISHERY PRODUCTION IN 1986 AND 1987.] *Equinoxe* No. 19. p. 10-17. 1988. In French. FR 34(2)
[IFREMER, 1 rue Jean Vilar, 34203 Sete, France] *Thunnus alalunga*.

89-003055 Easley, J. E., Jr. and Fred J. Prochaska. ALLOCATING HARVESTS BETWEEN COMPETING USERS IN FISHERY MANAGEMENT DECISIONS: APPROPRIATE ECONOMIC MEASURES FOR VALUATION. *Mar. Fish. Rev.* 49(3):29-33. 1987. FR 34(2)
[Dep. Econ. & Business, N.C. State Univ., Raleigh]

89-003056 Fable, William A., Jr.; Lee Trent; Gilbert W. Bane and Steven W. Ellsworth. MOVEMENTS OF KING MACKEREL, *SCOMBEROMORUS CAVALLA*, TAGGED IN SOUTHEAST LOUISIANA, 1983-85. *Mar. Fish. Rev.* 49(2):98-108. 1987. FR 34(2)
[Panama City Lab., Southeast Fish. Cent., NMFS, NOAA, 3500 Delwood Beach Rd., Panama City, FL 32407]

89-003057 Ferguson, Maury O. and Albert W. Green. AN ESTIMATE OF UNSURVEYED COASTAL RECREATIONAL BOAT FISHING ACTIVITY IN TEXAS. *Mar. Fish. Rev.* 49(2):155-161. 1987. FR 34(2)
[Parks & Wildl. Dep., Coastal Fish. Branch, 4200 Smith School Rd., Austin, TX 78744]

89-003060 Gerlotto, Francois. [HYDROACOUSTICAL METHODS APPLIED TO STOCK IDENTIFICATION ON TROPICAL ISLANDS (WITH AN EXAMPLE FROM THE FRENCH ANTILLES IN SEPTEMBER, 1984).] *Proc. Gulf Caribb. Fish. Inst.* 38:405-414, 1987. In French with English summ. FR 34(2)

[Cent. ORSTOM, B.P. 81, 97201 Fort France, Martinique]

89-003061 Goodreau, Louis J. ENFORCEMENT OF THE MFCMA: AN ECONOMIST'S PERSPECTIVE. DISCUSSION. *Mar. Fish. Rev.* 49(3):44, 1987. FR 34(2)

[New England Fish. Manage. Council, Suntaug Office Park, 5 Broadway, Saugus, MA 01906]

89-003062 Goodwin, M. H. RESOURCE ASSESSMENT AND FISHERIES TECHNOLOGY DEVELOPMENT. *Proc. Gulf Caribb. Fish. Inst.* 38:31-35, 1987. FR 34(2)

[Sea Grant Consortium, 287 Meeting St., Charleston, SC 29401]

89-003063 Gueguen, Jacques. [QUOTAS: WHO DECIDES WHAT?] *Equinoxe* No. 19. p. 4-9, 1988. In French. FR 34(2)

[Lab. ERHAL, IFREMER, Nantes, France]

89-003064 Gueredrat, J. A. and A. Guillou. [MARTINIQUE FISHERIES (RESEARCH PROBLEMS AND MANAGEMENT POSSIBILITIES).] *Proc. Gulf Caribb. Fish. Inst.* 38:381-386, 1987. In French with English summ. FR 34(2)

[Cent. ORSTOM, B.P. 81, 97201 Fort France, Martinique]

89-003065 Guzman, Hector M. {DISTRIBUTION AND ABUNDANCE OF CORALLIVOROUS ORGANISMS IN THE CORAL REEFS OF ISLA DEL CANO, COSTA RICA.} *Rev. Biol. Trop.* 36(2):191-207, 1988. In Spanish with English summ. FR 34(2)

[Smithsonian Trop. Res. Inst., Apdo. 2072, Balboa, Panama] *Arothron meleagris*, *A. hispidus*, *Pseudobalistes nnufragium*, *Sufflamen verres*, *Stegastes acapulcoensis*, and *Microspathodon dorsalis*.

89-003066 Han-Ching, L. and A. Maucorps. [PELAGIC FISHES: PROSPECTS ON THEIR VALUE AS SURIMI.} *Equinoxe* No. 20. p. 4-9, 1988. In French. FR 34(2)

Scomber scombrus, *Trachurus trachurus*, *Sardina pilchardus*, *Macromesistius poutassou*, and *Trisopterus luscus*.

89-003067 Hay, Mark E. and John P. Sutherland. THE ECOLOGY OF RUBBLE STRUCTURES OF THE SOUTH ATLANTIC BIGHT: A COMMUNITY PROFILE. U.S. Fish Wildl. Serv. Biol. Rep. 85(7.20):67p. 1988. Available from U.S. Fish & Wildl. Serv., Natl Wetlands Res. Cent., 1010 Gause Blvd., Slidell, LA 70458] FR 34(2)

[Univ. N.C. at Chapel Hill, Inst. Mar. Sci., Morehead City 28557]

THE PACIFIC ISLAND TERRITORIES. *Mar. Fish. Rev.* 49(2):8-14. 1987. FR 34(2)
[Southwest Regional Office, NMFS, NOAA, 360 S. Ferry St., Terminal Island, CA 90731]

89-003070 Hendrix, M. K. TECHNOLOGY AND TRADITION IN WEST AFRICAN MARITIME FISHERIES: TOMBO, SIERRA LEONE. *Int. Cent. Mar. Resour. Dev.* ICARD/WP-9. 48p. 1982. From U.S. Government Reports 88(10):23. 1988. Available from NTIS as PB88-151790/GAR. FR 34(2)

89-003071 Hiett, Robert L.; Kathryn A. Chandler; Audrey K. Reniere and A. Richard Bolstein. THE 1981 SOCIOECONOMIC SURVEY OF MARINE RECREATIONAL FISHING. *Trans. Northeast Fish Wildl. Conf.* 41. p. 253. 1984. Abstract only. FR 34(2)
[KCA Res., Inc., 5501 Cherokee Ave., Suite 111, Alexandria, VA 22312]

89-003072 Howard, Robert K. THE STRUCTURE OF A NEARSHORE FISH COMMUNITY OF WESTERN AUSTRALIA: DIEL PATTERNS AND THE HABITAT ROLE OF LIMESTONE REEFS. *Environ. Biol. Fishes* 24(2):93-104. 1989. FR 34(2)
[Greenbushes Ltd., P.O. Box 31, Greenbushes, W.A. 6254, Australia]

89-003073 Jacobson, D.; F. Quintanilla and D. Weidner. LATEST DEVELOPMENTS IN LATIN AMERICAN FISHERIES, JANUARY-JUNE 1988. *Natl. Mar. Fish. Serv. NMFS/FIA23/88-20*. 74p. 1988. From U.S. Government Reports 88(20):21. 1988. Available from NTIS as PB88-233770/GAR. FR 34(2)

89-003074 Jarman, M. C. and D. K. Conner. PROCEEDINGS: CONFERENCE ON GULF AND SOUTH ATLANTIC FISHERIES: LAW AND POLICY, HELD AT NEW ORLEANS, LOUISIANA ON MARCH 18-20, 1987. *Miss. Univ. Law Cent. MASGP-87-013*. 258p. 1987. From U.S. Government Reports 88(6):11. 1988. Available from NTIS as PB88-125224/GAR. FR 34(2)

89-003075 Johnston, Richard S. and James R. Wilson. INTERDEPENDENCIES AMONG FISHERIES MANAGEMENT, FISHERIES TRADE, AND FISHERIES DEVELOPMENT: EXPERIENCES WITH EXTENDED JURISDICTION. *Mar. Fish. Rev.* 49(3):45-55. 1987. FR 34(2)
[Dep. Agric. & Resour. Econ., Oreg. State Univ., Corvallis 97331-3601]

89-003076 Jones, R. FISHERY MANAGEMENT - THEORETICAL CONSIDERATIONS AND PRACTICAL DIFFICULTIES. In: *Developments In Fisheries Research In Scotland*. B. Dalley and B. B. Parrish, editors. p. 56-64. 1987. FR 34(2)

89-003077 Jory, Darryl Edward. ECOLOGY OF THE ICHTHYOFAUNA OF LA RESTING LAGOON, MARGARITA ISLAND, VENEZUELA. *Ph.D. dissertation, Univ. Miami* 489p. 1989. From Diss. Abstr. Int. B Sci. Eng. 49(7):2452. 1989. Order No. DA8813693. FR 34(2)

- 89-003080 King, Lauriston R. and Steven G. Olson. COASTAL STATE CAPACITY OF MARINE RESOURCES MANAGEMENT. *Coastal Manage.* 16(4):305-318. 1988. FR 34(2)
[Office Univ. Res. & Dep. Political Sci., Tex. A&M Univ., College Station 77843]
- 89-003081 Kirkley, James E. BRIDGING THE GAP BETWEEN ECONOMIC THEORY AND FISHERIES MANAGEMENT: CAN THE MFCMA PRODUCE ECONOMICALLY EFFICIENT MANAGEMENT? DISCUSSION. *Mar. Fish. Rev.* 49(3):25-28. 1987. FR 34(2)
[Coll. William & Mary, Va. Inst. Mar. Sci., School Mar. Sci., Gloucester Point 23062]
- 89-003082 Knecht, R. W.; B. Cicin-Sain; J. M. Broadus, M. Silva and R. E. R. MANAGEMENT OF OCEAN AND COASTAL RESOURCES IN COLOMBIA: AN ASSESSMENT. Woods Hole Oceanogr. Inst. Tech. Rep. WHOI-84-21. 225p. 1984. From U.S. Government Reports 89(2):177. 1988. Available from NTIS as PB88-107834/GAR. FR 34(2)
- 89-003083 Kotrschal, Kurt and Don A. Thomson. FEEDING PATTERNS IN TROPICAL PACIFIC BLENNIROID FISHES (TELEOSTEI: TRIPTERYGIIDAE, LABRIFORMES: CHAENOPSIDAE, BLENNIIDAE). *Oecologia (Berl.)* 70(3):367-378. 1986. FR 34(2)
[Zool. Inst., Univ. Salzburg, A-5020 Salzburg, Austria]
- 89-003084 Lepiz, L. G. and J. G. Sutinen. SURVEILLANCE AND ENFORCEMENT OPERATIONS IN THE COSTA RICAN TUNA FISHERY. *Int. Cent. Mar. Resour. ICMRD/WP-14*. 31p. 1985. From U.S. Government Reports 88(10):23. 1988. Available from NTIS as PB88-151808/GAR. FR 34(2)
- 89-003085 Lipton, Douglas W. INTERDEPENDENCIES AMONG FISHERIES MANAGEMENT, FISHERIES TRADE, AND FISHERIES DEVELOPMENT: EXPERIENCES WITH ECONOMIC JURISDICTION. DISCUSSION. *Mar. Fish. Rev.* 49(3):55-56. 1987. FR 34(2)
[Natl. Mar. Fish. Serv., NOAA, U.S. Dep. Commerce, Washington, DC 20235]
- 89-003086 Low, R. A. and C. W. Waltz. SOUTH CAROLINA MARINE RECREATION FISHERY STATISTICS SURVEY 1987. *S.C. Mar. Resour. Cent. Tech. Rep. No. 67*. 78p. 1988. FR 34(2)
[Mar. Resour. Div., Wildl. & Mar. Resour. Dep., Charleston, SC 29412]
- 89-003087 Low, R. A.; D. Theiling and E. B. Joseph. SOUTH CAROLINA MARINE RECREATION FISHERY STATISTICS SURVEY 1986. *S.C. Mar. Resour. Cent. Tech. Rep. No. 67*. 78p. 1987. FR 34(2)
[Mar. Resour. Div., Wildl. & Mar. Resour. Dep., Charleston, SC 29412]

89-003059 Luckhurst, Brian and Jack Ward. BEHAVIORAL DYNAMICS OF CORAL FISHES IN ANTILLIAN FISH TRAPS AT BERMUDA. *Proc. Gulf Caribb. Fish. Inst.* 346. 1987. FR 34(2)
[Div. Fish., Dep. Agric. & Fish., Hamilton, Bermuda]

89-003030 MacLennan, D. N. and S. T. Forbes. ACOUSTIC METHODS OF FISH ESTIMATION. In: *Developments in Fisheries Research in Scotland*. B. S. Bailey and B. B. Parrish, editors. p. 40-55. 1987. FR 34(2)

89-003091 Marcille, J. M. and John Caddy. TUNA RESOURCES OF THE LESSER ANTILLES: PRESENT STATE OF FISHING AND PROSPECTS FOR DEVELOPMENT. *Proc. Gulf Caribb. Fish. Inst.* 38:620-654. 1987. FR 34(2)
[FAO of the UN, Rome, Italy] *Thunnus atlanticus*, *T. albacores*, *T. alalunga*, *Euthynnus pelamis*.

89-003092 McIntyre, A. D. POLLUTION AND FISHERIES. In: *Developments in Fisheries Research in Scotland*. B. S. Bailey and B. B. Parrish, editors. p. 190-196. 1987. FR 34(2)

89-003093 Merrett, Nigel. FISHING AROUND IN THE DARK. *New Sci.* 121(1653):147. 1989. FR 34(2)
[Inst. Oceanogr. Sci., Deacon Lab., Wormley, Surrey, England]

89-003094 Mills, D. H. ATLANTIC SALMON MANAGEMENT. In: *Developments in Fisheries Research in Scotland*. B. S. Bailey and B. B. Parrish, editors. p. 207-219. 1987. FR 34(2)

89-003095 Møller, H. and K. Tiffert. PRELIMINARY EVALUATION OF RECREATIONAL ANGLING IN KIEL BIGHT, WESTERN BALTIC. *J. Cons. Cons. Int. Explor. Mar.* 44(2):147. 1988. FR 34(2)
[Inst. Meereskunde, Düsternbrooker Weg 20, D-2300 Kiel, West Germany] *Anguilla*, *Clupea harengus*, *Gadus morhua*, and *Platichthys flesus*.

89-003096 Morris, B. F. LIVING MARINE RESOURCES OF THE SHUMAGIN REGION: A RESOURCE REPORT FOR THE SHUMAGIN OIL AND GAS LEASE SALE 86. *Natl. Mar. Serv. NOAA-TM-NMFS-F/AKR-8*. 206p. 1987. From U.S. Government Reports 87(18):18. 1987. Available from NTIS as PB87-213542/GAR. FR 34(2)

89-003097 Murray, James D.; Jeffrey C. Howe; David G. Lindquist and David C. Lindquist. USING FAD'S TO ATTRACT FISH AT COASTAL FISHING PIERS. *Mar. Fish. Rev.* 49(2):154. 1987. FR 34(2)
[Mar. Advisor. Serv., UNC Sea Grant Coll. Program, Box 8605, N.C. State Univ., Raleigh 27695-8605]

89-003098 National Marine Fisheries Service. LATIN AMERICAN-SOVIET FISHING RELATIONS. 1987. *Natl. Mar. Fish. Ser. NMFS/IFR-87/29*. 16p. 1987. From U.S. Government Reports 87(18):18. 1987. Available from NTIS as PB87-199618/GAR. FR 34(2)

Serv. Biol. Rep. 85(1-10) (also numbered as 85(1-10)) 73p. 1988. Available from U.S. Fish & Wildl. Serv., Natl. Wetlands Res. Cent., 1010 Gause Blvd., Slidell, LA 70158. FR 34(2)
[Water Resour. Div., U.S. Geol. Surv., 345 Middlefield Rd. MS-496, Menlo Park, CA 94025]

89-003101 Nrieland, David L.; Gilbert W. Bane; Debra McMillin and Gary Shaffer. ANALYSIS OF NUCLEAR EYE LENS PROTEINS OF KING MACKEREL, *SCOMBEROMORUS CAVALLA*, USING HIGH PERFORMANCE LIQUID CHROMATOGRAPHY. *Proc. Gulf Caribb. Fish. Inst.* 38:600-614. 1987. FR 34(2)

[Coastal Fish. Inst., Cent. Wetland Resour., La. State Univ., Baton Rouge 70803-7503]

89-003102 Nixon, D.; R. Moran and C. Philbrick. SELF-INSURANCE PROGRAMS FOR THE COMMERCIAL FISHING INDUSTRY. WORKSHOP SUMMARY REPORT: NATIONAL WORKSHOP ON FISHING VESSEL INSURANCE AND SAFETY HELD AT WASHINGTON, D.C. ON FEBRUARY 4-6, 1987. *Mar. Advis. Bull.* 31:39p. 1987. From U.S. Government Reports 87(24):19. 1987. Available from NTIS as PB87-223029/GAR. FR 34(2)

89-003103 Nixon, Dennis and Daven C. Joseph. FISHING VESSEL INSURANCE IN THE EASTERN CARIBBEAN: PROBLEMS AND PROSPECTS. *Proc. Gulf Caribb. Fish. Inst.* 38:36-43. 1987. FR 34(2)

[Grad. Program Mar. Affairs, Univ. R.I., Kingston 02881]

89-003104 Norton, David W., editor. RESEARCH ADVANCES ON ANADROMOUS FISH IN ARCTIC ALASKA AND CANADA. *Biol. Pap. Univ. Alaska* No. 24. 165p. 1989. Available at \$20.00 (US) or \$23.00 (Foreign) from Inst. Arctic Biol., Univ. Alaska, Fairbanks 99775-0180. FR 34(2)

89-003105 Okera, W. and J. S. Gunn. EXPLORATORY TRAWL SURVEYS BY FRV SOELA IN THE AUSTRALIAN FISHING ZONE SECTOR OF THE TIMOR-ARAFURA SEAS AND IN THE GULF OF CARPENTARIA, 1980-81. *CSIRO Mar. Labs.* 150:113p. 1986. From U.S. Government Reports 87(13):18. 1987. Available from NTIS as PB87-163077/GAR. FR 34(2)

89-003106 Pacific Fishery Management Council. PRESEASON REPORT I. STOCK ABUNDANCE ANALYSIS FOR 1989 OCEAN SALMON FISHERIES. *Pac. Fish. Manage. Council* 68p. 1989. FR 34(2)

[Pac. Fish. Manage. Council, Metro Cent., Suite 420, 2000 SW. First Ave., Portland, OR 97201] *Oncorhynchus gorbuscha*, *O. kisutch*, and *O. tshawytscha*.

89-003107 Pacific Fishery Management Council. REVIEW OF 1988: OCEAN SALMON FISHERIES. *Pac. Fish. Manage. Council* 252p. 1989. FR 34(2)

[Pac. Fish. Manage. Council, Metro Cent., Suite 420, 2000 SW. First Ave., Portland, OR 97201] *Oncorhynchus tshawytscha* and *O. kisutch*.

89-003108 Palko, Barbara Jayne; Lee Trent and Harold A. Brusher. ABUNDANCE OF SPANISH MACKEREL, *SCOMBEROMORUS MACULATUS*, IN THE SOUTHEASTERN UNITED STATES BASED ON CHARTERBOAT CPUE DATA, 1982-85. *Mar. Fish. Rev.*

89-003110 Panayotou, T. and S. Jetanavanich. ECONOMICS AND MANAGEMENT OF THE MARINE FISHERIES. *ICLARM Studies Rev.* 14:99p. 1987. From U.S. Government Report 88(18):16. 1988. Available from NTIS as PB88-215843/GAR. FR 34(2)

89-003111 Perra, Paul. NEW DEVELOPMENTS IN THE INTERSTATE MANAGEMENT OF FISHERIES FOR THE UNITED STATES EAST COAST TERRITORIAL SEA. *Trans. Northeast Fish Wildl. Conf.* 41. p. 231. 1984. Abstract only. FR 34(2)
[Atlantic States Mar. Fish. Comm., 1717 Massachusetts Ave., NW, Washington, DC 20036]

89-003112 Phillips, N. W. SOUTHWEST FLORIDA SHELF REGIONAL BIOLOGICAL COMMUNITIES SURVEY, YEAR 3 FINAL REPORT. VOLUME 2. TECHNICAL REPORT. *Continental Shelf Assoc. Inc.* MMS/GM-86/0109. 421p. 1987. From U.S. Government Report 88(18):92. 1988. Available from NTIS as PB88-195425/GAR. FR 34(2)

89-003113 Phillips, N. W. SOUTHWEST FLORIDA SHELF REGIONAL BIOLOGICAL COMMUNITIES SURVEY, YEAR 3 FINAL REPORT. VOLUME 3. APPENDICES. *Continental Shelf Assoc. Inc.* MMS/GM-86/0110. 581p. 1987. From U.S. Government Reports 88(18):92. 1988. Available from NTIS as PB88-195433/GAR. FR 34(2)

89-003114 Phillips, N. W. SOUTHWEST FLORIDA SHELF REGIONAL BIOLOGICAL COMMUNITIES SURVEY, YEAR 3 FINAL REPORT. VOLUME 1. EXECUTIVE SUMMARY. *Continental Shelf Assoc. Inc.* MMS/GM-86/0108. 51p. 1987. From U.S. Government Report 88(18):92. 1988. Available from NTIS as PB88-195417/GAR. FR 34(2)

89-003115 Pinhorn, A. T. CATCHABILITY IN SOME OF THE MAJOR GROUND FISH FISHERIES OFF THE EAST COAST OF CANADA. *J. Northwest Atl. Fish. Sci.* 8:15-23. 1980. FR 34(2)
[Dep. Fish. & Oceans, Sci. Branch, Northwest Atlantic Fish. Cent., P.O. Box 5667, St. John's, NF, Canada A1C 5X1]

89-003116 Podesta, Guillermo Pablo. THE FISHERY FOR ARGENTINE HAKE (*MERLUCCIA HUBBSI*) AND OCEANIC PROCESSES IN THE SOUTHWESTERN ATLANTIC OCEAN. *Ph.D. dissertation, Univ. Miami* 354p. 1987. From Diss. Abstr. Int. B Sci. Eng. 49(7):2453-2454. 1989. Order No. DA8813699. FR 34(2)

89-003117 Powers, Joseph E. STRATEGIES AND CONSTRAINTS IN DEVELOPMENT OF INSULAR FISHERY RESOURCES. *Proc. Gulf Caribb. Fish. Inst.* 38:18-26. 1987. FR 34(2)
[NMFS, Southeast Fish. Cent., Miami Lab., Miami, FL 33149]

Caribb. Fish. Inst. 38:707-713. 1987. In Spanish with English summ. FR 34(2)
[Inst. Mexicano Pesca Dep., Confederacion Maritima Mexicana, AC Londres 250-252, Mexico DF, Mexico]

89-003119 Recht, L. FISHERIES REPORT FOR VENEZUELA, 1987. *Am. Embassy (Venezuela)* NMFS-FIA23/88-24. 79p. 1988. From U.S. Government Reports 88(23):22. 1985. Available from NTIS as PB85-243142/GAR. FR 34(2)

89-003120 Reed, Rhonda J. and Alec D. MacCall. CHANGING THE SIZE LIMIT: HOW IT COULD AFFECT CALIFORNIA HALIBUT FISHERIES. *Calif. Coop. Oceanic Fish. Invest. Rep.* 29:158-166. 1988. In English with Spanish summ. FR 34(2)
[Dep. Fish & Game, 330 Golden Shore, Suite 53, Long Beach, CA 90803] *Paralichthys californicus*.

89-003121 Richards, R. Anne and David G. Devel. ATLANTIC STRIPED BASS: STOCK STATUS AND THE RECREATIONAL FISHERY. *Mar. Fish. Rev.* 49(2):58-66. 1987. FR 34(2)
[Northeast Fish. Cent., NMFS, NOAA, Woods Hole, MA 02543] *Morone saxatilis*.

89-003122 Richards, William J. and Randy E. Edwards. STOCKING TO RESTORE OR ENHANCE MARINE FISHERIES. In: *Fish Culture in Fisheries Management*. Richard Stroud, editor. p. 75-80. 1986. FR 34(2)
[Southeast Fish. Cent., Natl. Mar. Fish. Serv., Miami, FL]

89-003123 Robinson, S. INVENTORY OF BENEFICIAL MARINE LIFE OF COSTA RICA'S ATLANTIC CORAL REEF. *Int. Inst. Environ. Dev. AID-PN-AAW-876*. 55p. 1987. From U.S. Government Reports 88(19):16-17. 1988. Available from NTIS as PB88-216593/GAR. FR 34(2)

89-003124 Rutledge, William P. and Gary C. Matlock. MARICULTURE AND FISHERIES MANAGEMENT - A FUTURE COOPERATIVE APPROACH. In: *Fish Culture in Fisheries Management*. Richard Stroud, editor. p. 119-127. 1986. FR 34(2)
[Fish Hatcheries Branch, Parks & Wildl. Dep., Austin, TX]

89-003125 Sahrhage, D. [MARINE FISH STOCK ASSESSMENT: ITS ROLE IN MANAGEMENT AND PROTECTION.] *Naturwissenschaften* 74(7):305-311. 1987. In German with English summ. FR 34(2)
[Inst. Seefisch., Bundesforschungsanstalt Fisch., D-2000 Hamburg, West Germany]

89-003126 Salazar, D. FISHERIES REPORT FOR VENEZUELA, 1985. *Am. Embassy (Caracas, Venezuela)* NMFS-FIA321/87-06. 16p. 1987. From U.S. Government Reports 87(16):14. 1985. Available from NTIS as PB87-182796/GAR. FR 34(2)

89-003127 Sambasivam, S. and P. Subramanian. GULF OF MANNAR - A CORAL DOMINATED ECOSYSTEM IN DANGER. *Cienc. Mar.* 14(3):39-50. 1988. In English and Spanish. FR 34(2)
[Cent. Advanced Study Mar. Biol., Annamalai Univ., Parangipettai-608 502, Tamil Nadu, India]

MAY 13-16, 1984, OCEAN CITY, MARYLAND. *Trans. Northeast Fish Wildl. Conf.* 41: 261p.
1984. Available at \$5.00 from Jerry R. Longcore, 151 Bennuch Rd., Orono, ME 04469. FR 34(2)
{Dep. For. & Wildl. Manage., Univ. Mass., Amherst}

89-003130 Scarnecchia, Dennis L.; Arni Isaksson and S. E. White. EFFECTS OF OCEANIC VARIATIONS AND THE WEST GREENLAND FISHERY ON AGE AT MATURITY OF ICELANDIC WEST COAST STOCKS OF ATLANTIC SALMON (*SALMO SALAR*). *Can. J. Fish. Aquat. Sci.* 46(1):16-27. 1989. In English with French summ. FR 34(2)
{Dep. Anim. Ecol., Iowa State Univ., Ames 50011}

89-003131 Schmied, Ronald L. and Edward E. Burgess. MARINE RECREATIONAL FISHERIES IN THE SOUTHEASTERN UNITED STATES: AN OVERVIEW. *Mar. Fish. Rev.* 49(2):2-7. 1987. FR 34(2)
{Southeast Regional Office, NMFS, NOAA, 9450 Koger Blvd., St. Petersburg, FL 33702}

89-003132 Schmied, Ronald L. MARINE RECREATIONAL FISHERIES DEVELOPMENT IN THE CARIBBEAN: WHY AND HOW. *Proc. Gulf Caribb. Fish. Inst.* 38:688-706. 1987. FR 34(2)
{Southeast Regional Off., Natl. Mar. Fish. Serv., 9450 Koger Blvd., St. Petersburg, FL 33702}

89-003133 Sigler, Michael F. and Jeffrey T. Fujioka. EVALUATION OF VARIABILITY IN SABLEFISH, *ANOPILOPOMA FIMBRIA*. ABUNDANCE INDICES IN THE GULF OF ALASKA USING THE BOOTSTRAP METHOD. *U.S. Natl. Mar. Fish. Serv. Fish. Bull.* 86(3):445-452. 1988. FR 34(2)
{Northwest & Alaska Fish. Cent. Auke Bay Lab., NMFS, NOAA, P.O. Box 210155, Auke Bay 99821}

89-003134 Slaybaugh, Debra K.; Benny J. Gallaway and Joshua S. Baker. THE DATABANK FOR ARCTIC ANADROMOUS FISH: DESCRIPTION AND OVERVIEW. *Biol. Pap. Univ. Alaska* No. 24, p. 4-26. 1989. FR 34(2)
{Standard Alaska Production Co., 900 E. Benson Blvd., P.O. Box 196612, Anchorage 99519-6612}

89-003135 Squire, James L. PACIFIC BILLFISH ANGLER CATCH RATES FOR KEY AREA STOCK ASSESSMENTS. *Mar. Fish. Rev.* 49(2):15-25. 1987. FR 34(2)
{Southwest Fish. Cent., NMFS, NOAA, 8604 La Jolla Shores Dr., La Jolla, CA 92036}
Makaira indica, *M. nigricans*, *Tetrapturus audax*, and *Istiophorus platypterus*.

89-003136 Squire, James L. RELATION OF SEA SURFACE TEMPERATURE CHANGES DURING THE 1983 EL NINO TO THE GEOGRAPHICAL DISTRIBUTION OF SOME IMPORTANT RECREATIONAL PELAGIC SPECIES AND THEIR CATCH TEMPERATURE PARAMETERS. *Mar. Fish. Rev.* 49(2):44-57. 1987. FR 34(2)
{Southwest Fish. Cent., NMFS, NOAA, 8604 La Jolla Shores Dr., La Jolla, CA 92036} Data for eight species.

89-003138 Strand, Ivar E. THE MAGNUSON FISHERIES CONSERVATION AND MANAGEMENT ACT: AN ECONOMIC ASSESSMENT OF THE FIRST 10 YEARS. DISCUSSION. *Mar. Fish. Rev.* 49(3):12. 1987. FR 34(2)
[Univ. Md., College Park 20754]

89-003139 Strand, J. A.; E. A. Crecelius; W. H. Pearson; G. W. Fellingham and R. E. Elston. RECONNAISSANCE SURVEY OF EIGHT BAYS IN PUGET SOUND. *Battelle Pz. Northwest Labs.* PNL-SA-15393. 11p. 1988. From U.S. Government Reports 82(24):137. 1988. Available from NTIS as DE88008186/GAR. FR 34(2)

89-003140 Sutinen, Jon G. ENFORCEMENT OF THE MFCMA: AN ECONOMIST'S PERSPECTIVE. *Mar. Fish. Rev.* 49(3):36-43. 1987. FR 34(2)
[Dep. Resour. Econ., Univ. R.I., Kingston 02881]

89-003141 Tarnas, David A. THE U.S. NATIONAL MARINE SANCTUARY PROGRAM: AN ANALYSIS OF THE PROGRAM'S IMPLEMENTATION AND CURRENT ISSUES. *Coastal Manage.* 16(4):275-303. 1988. FR 34(2)
[Mar. Policy Consult., P.O. Box 2523, Kailua-Kona, HI 96745]

89-003142 Thomas, T. and D. Weidner. CUBAN FISHERY RELATIONS IN THE AMERICAS. 1959-83. *Notl. Mar. Fish. Serv. NMFS/FIA23/88-59*. 35p. 1988. From U.S. Government Reports 89(21):20. 1988. Available from NTIS as PB88-229661/GAR. FR 34(2)

89-003143 Thorpe, J. E. THE CULTURE AND STOCK ENHANCEMENT: OCEAN RANCHING OF SALMON. In: *Developments in Fisheries Research in Scotland*. B. S. Bolley and B. B. Parrish, editors. p. 232-245. 1997. FR 34(2)

89-003144 Trent, Lee; Barbara Jayne Palko; Mark L. Williams and Harold A. Brusher. ABUNDANCE OF KING MACKEREL, *SCOMBEROMORUS CAVALLA*, IN THE SOUTHEASTERN UNITED STATES BASED ON CPUE DATA FROM CHARTERBOATS, 1982-85. *Mar. Fish. Rev.* 49(2):78-90. 1987. FR 34(2)
[Panama City Lab., Southeast Fish. Cent., NMFS, NOAA, 3500 Delwood Beach Rd., Panama City, FL 32407]

89-003145 Trent, Lee; William A. Fable, Jr.; Sandra J. Russell; Gilbert W. Bane and Barbara Jayne Palko. VARIATIONS IN SIZE AND SEX RATIO OF KING MACKEREL, *SCOMBEROMORUS CAVALLA*, OFF LOUISIANA, 1977-85. *Mar. Fish. Rev.* 49(2):91-97. 1987. FR 34(2)
[Panama City Lab., Southeast Fish. Cent., NMFS, NOAA, 3500 Delwood Beach Rd., Panama City, FL 32407]

89-003146 Turner, Stephen; Churchill B. Grimes and Kenneth W. Able. THE BIOLOGICAL BASIS OF MANAGEMENT OF TILEFISH IN THE MIDDLE ATLANTIC BIGHT AND SOUTHERN NEW ENGLAND REGION. *Trans. Northeast Fish Wildl. Conf.* 41. p. 245. 1984. Abstract only. FR 34(2)
[Rutgers Univ., New Brunswick, NJ 08903] *Lopholatilus chamaeleonticeps*.

89-003147 von Nothmann, Godfried H. M. M. EARLY MAXIMUM GROWTH OF STONY CORAL

89-003149 Weidner, D. LATIN AMERICAN FISHERIES, 1986. *Natl. Mar. Fish. Serv. NMFS/FIA23/28-24*. 37p. 1987. From U.S. Government Reports 85(21):21. 1988. Available from NTIS as PB89-242557/GAR. FR 34(2)

89-003150 Weidner, D.; C. de Chiara and J. M. Clark. LATEST DEVELOPMENTS IN LATIN AMERICAN FISHERIES, JANUARY-JUNE, 1987. *Natl. Mar. Fish. Serv. NMFS/FIA23/89-1*. 71p. 1987. From U.S. Government Reports 89(21):20. 1988. Available from NTIS as PB89-229703/GAR. FR 34(2)

89-003151 West, Niels and Kim Richardson. NEARSHORE BATHYMETRIC EVALUATION OF BAIE DU GALION, MARTINIQUE UTILIZING LANDSAT TM DATA. *Proc. Gulf Caribb. Fish. Inst.* 38:415-432. 1987. FR 34(2)
[Dep. Geogr. & Mar. Affairs, Univ. R.I., Kingston 02881-0817]

89-003152 Williams, Frank, editor. PROCEEDINGS OF THE THIRTY-EIGHTH ANNUAL GUINEA AND CARIBBEAN FISHERIES INSTITUTE. TROIS-ISLETS, MARTINIQUE. NOVEMBER, 1987. *Proc. Gulf Caribb. Fish. Inst.* 38:744p. 1987. In English, French, and Spanish. FR 34(2)
Selected papers indexed in this issue of *Fisheries Review*.

89-003153 Wilson, Robin S. and Gary C. B. Poore. THE BASS STRAIT SURVEY OF BIOLOGICAL SAMPLING STATIONS, 1979-1984. *Occas. Pap. Mus. Vic.* Vol. 3. p. 1-10. 1987. FR 34(2)
[Dep. Crustacea, Mus. Victoria, Swanston St., Melbourne, Vic. 3000, Australia]

89-003154 Young, Cliff, editor. FISHERIES MANAGEMENT IN WA - CHANGES FOR THE BETTER. *FINS* 21(3):3-8. 1988. FR 34(2)
[108 Adelaide Terrace, Perth, W.A., Australia]

UTILIZATION OF FISHERY PRODUCTS

89-003155 Johnson, Jeffrey C.; David C. Griffith and James D. Murray. ENCOURAGING THE USE OF UNDERUTILIZED MARINE FISHES BY SOUTHEASTERN U.S. ANGLERS. PART I: THE RESEARCH. *Mar. Fish. Rev.* 49(2):122-137. 1987. FR 34(2)
[Inst. Coastal & Mar. Resour., E. Carolina Univ., Greenville, NC 27858-4353]

89-003156 Jungnitz, H.-A. [HEALTH RISK TO MAN DUE TO FISH CONSUMPTION, WITH PARTICULAR REFERENCE TO PARASITES.] *Monatsh. Veterinärmed.* 44(2):50-53. 1989. German with Russian and English summ. FR 34(2)
[VEB Fischfang, Rostock 5, DDR-2510, East Germany]

89-003158 Lorenz, Elisabeth. [CONTAMINATION OF FISH BY POLLUTANTS IN FISH AND MARINE ANIMALS.] *Monatsh. Veterinarmed.* 44(2):59-62. 1989. In German with Russian and English summ. FR 34(2)
[Reinhardtstr. 4, Berlin DDR-1040, East Germany]

89-003159 Murray, James D.; Jeffrey C. Johnson and David C. Griffith. ENCOURAGING THE USE OF UNDERUTILIZED MARINE FISHES BY SOUTHEASTERN U.S. ANGLERS, PART II: EDUCATIONAL OBJECTIVES AND STRATEGY. *Mar. Fish. Rev.* 49(2):138-142. 1987. FR 34(2)
[Mar. Advisor. Serv., UNC Sea Grant Coll. Program, N.C. State Univ., Raleigh 27655]

89-003160 Oka, Shigemitsu; Yoshiaki Ando and Keiichi Oishi. DISTRIBUTION OF ENTEROTOXIGENIC *CLOSTRIDIUM PERFRINGENS* IN FISH AND SHELLFISH. *Bull. Jpn. Soc. Sci. Fish.* 55(1):79-86. 1989. In English. FR 34(2)
[Lab. Food Hygiene, Fac. Fish., Hokkaido Univ., Hakodate 041, Japan]

89-003161 Saeki, Hiroki; Hirotada Ozaki; Michio Nonaka and Ken-ichi Arai. [DENATURATION OF ALASKA POLLACK MYOFIBRILS INDUCED BY CaCl_2 AT HIGH IONIC STRENGTH.] *Bull. Jpn. Soc. Sci. Fish.* 55(1):173-178. 1989. In Japanese with English summ. FR 34(2)
[Taiyo Cent. R & D Inst., Taiyo Fish. Co. Ltd., Tsukishima, Chuo, Tokyo 104, Japan; *Theragra chalcogramma*]

89-003162 Saupé, Ch. [MICROBIAL HAZARDS TO MAN CAUSED BY FISH AND FISH PRODUCTS - WAYS OF PREVENTION (REVIEW PAPER).] *Monatsh. Veterinarmed.* 44(2):51-59. 1989. In German with Russian and English summ. FR 34(2)
[Walterstr. 7, Sassnitz DDR-2355, East Germany]

89-003163 Stanescu, V.; C. Laslo; Camelia Gus and I. Jurca. DYNAMICS OF CERTAIN PHYSICO-CHEMICAL ALTERATIONS IN FISH MEAT CONTAMINATED WITH VARIOUS MICROORGANISMS. *Bul. Inst. Agron. Cluj-Napoca Ser. Zootech. Med. Vet.* 41:55-62. 1987. In English with Romanian summ. FR 34(2)

89-003164 Stansby, Maurice E. NUTRITIONAL PROPERTIES OF RECREATIONALLY CAUGHT MARINE FISHES. *Mar. Fish. Rev.* 49(2):118-121. 1987. FR 34(2)
[Northwest & Alaska Fish. Cent., NMFS, NOAA, 2725 Montlake Blvd. E., Seattle, WA 98112] Data for 25 species.

89-003165 Surendran, P. K.; Jose Joseph; A. V. Shenoy; P. A. Perigreen; Iyer K. Mahadeva and K. Gopakumar. STUDIES ON SPOILAGE OF COMMERCIALY IMPORTANT TROPICAL FISHES UNDER ICED STORAGE. *Fish. Res.* 8(1-2):1-9. 1989. FR 34(2)
[Cent. Inst. Fish. Technol., Matsyapuri P.O., Cochin-682 029, India] *Sardinella longiceps*, *Rastrelliger kanagurta*, *Etroplus suratensis*, *Chanos chanos*, and *Tilapia mossambica*.

89-003166 Watson, Cheryl; Robert E. Bourke and Richard W. Brill. A COMPREHENSIVE THEORY ON THE ETIOLOGY OF BURNT TUNA. *U.S. Natl. Mar. Fish. Serv. Fish. Bul.* 86(2):367-372. 1988. FR 34(2)
[Dep. Physiol., John A. Burns School Med., Univ. Hawaii, Honolulu 96822] *Thunnus albacares* and *T. obesus*.

Bayley, Peter B. and Douglas J. Austen. COMPARISON OF DETONATING CORD
ENONE FOR SAMPLING FISH IN WARMWATER IMPOUNDMENTS. *N. Am. J. Fish.*
(3):310-316. 1988. FR 34(2)
ist. Surv., 607 E. Peabody Dr., Champaign, IL 61820]

Bolsenga, S. J.; H. A. Vanderploeg; M. A. Quigley and G. L. Fahnenstiel.
DNS FOR AN UNDER-ICE ECOLOGY PROGRAM. *J. Great Lakes Res.* 14(3):372-376.
34(2)
Great Lakes Environ. Res. Lab., 2205 Commonwealth Blvd., Ann Arbor, MI
3]

Caron, F. and G. Ouellet. [METHODOLOGY FOR JUVENILE SALMON
RY IN QUEBEC.] In: *The Restoration of Salmonid Rivers*. M. Thibault and R.
editors. p. 77-84. 1987. In French with English summ. FR 34(2)
150 Est Blvd., Saint-Cyrille, PQ, Canada G1R 4Y1]

Castillo P., Jorge; Oscar Guzman F. and Pedro Pineda R. [ECHOINTEGRATION
IENT (C_b) CALIBRATION AND TARGET STRENGTH PER KG (TS_{kg})
INATIONS ON CHILEAN PILCHARD, JACK MACKEREL AND MACKEREL.] *Invest.*
4:65-77. 1987. In Spanish with English summ. FR 34(2)
Fomento Pesquero, Casilla 1287, Santiago, Chile] *Sardinops sagax*, *Trachurus*
i, and *Scomber japonicus*.

Clavijo, Ileana E.; Joseph LaPlace and William Tobias. CONSTRUCTION AND
ATION OF A MIDWATER FAD DESIGN IN THE U.S. VIRGIN ISLANDS. *Proc. Gulf*
Fish. Inst. 38:714-722. 1987. FR 34(2)
Fish & Wildl., Dep. Conserv. & Cultural Affairs, St. Thomas, U.S. Virgin Islands

Cote, Y.; D. Clavet; J.-M. Dubois and A. Boudreault. [SALMON PARR
AT INVENTORY AND ESTIMATION OF PRODUCTION BY VERTICAL AIR
OGRAPH.] In: *The Restoration of Salmonid Rivers*. M. Thibault and R. Billard,
s. p. 85-94. 1987. In French with English summ. FR 34(2)
ist. Loisir, Chasse & Pêche, Dir. Faune Aquat., 150 Est Blvd., Saint-Cyrille, PQ,
la G1R 4Y1] *Salmo salar* in Canada.

Coutant, C. C. MICROCHEMICAL ANALYSIS OF FISH HARD PARTS FOR
INSTRUCTING HABITAT USE: PRACTICE AND PROMISE. *Oak Ridge Natl. Lab.* 19p.
From U.S. Government Reports 88(24):137-138. 1988. Available from NTIS as
09055/GAR. FR 34(2)

Duke, R. PROTECTION OF WILD ADULT STEELHEAD IN IDAHO BY ADIPOSE
REMOVAL: ANNUAL REPORT. *Idaho Dep. Fish Game* DOE/BP/14903-1. 41p. 1987. From
Government Reports 88(1):16. 1988. Available from NTIS as DE87010556/GAR. FR 34(2)
corhynchus mykiss.

Edmonds, J. S.; M. J. Moran; N. Caputi and M. Morita. TRACE ELEMENT
LYSIS OF FISH SAGITTAE AS AN AID TO STOCK IDENTIFICATION: PINK SNAPPER
(*LYSOPHYRUS AURATUS*) IN WESTERN AUSTRALIAN WATERS. *Can. J. Fish. Aquat. Sci*
1:50-54. 1989. In English with French summ. FR 34(2)
Fish Resch. W.A. 6020, Australia]

[Dep. Nat. Resour., 3911 Fish Hatchery Rd., Fitchburg, WI 53711]

89-003177 Fossa, Jan Helge; Jan Larsson and Lene Buhl-Jensen. A PNEUMATIC, BOTTOM-ACTIVATED, OPENING AND CLOSING DEVICE FOR EPIBENTHIC SLEDGES. *Sarsia* 73(4):299-302. 1988. FR 34(2)

[Univ. Bergen, Dep. Mar. Biol., N-5065 Blomsterdalen, Norway]

89-003178 Graves, Kerry G. and Jacob C. Morrow. TUBE SAMPLER FOR ZOOPLANKTON. *Prog. Fish-Cult.* 50(3):182-183. 1988. FR 34(2)

[Natl. Fish Hatchery, Rt. 2, Box 480, Tishomingo, OK 73460]

89-003179 Jones, Peter A. and Ronald J. Sloan. AN *IN SITU* RIVER EXPOSURE VESSEL FOR BIOACCUMULATION STUDIES WITH JUVENILE FISH. *Environ. Toxicol. Chem.* 8(2):151-155. 1989. FR 34(2)

[Bur. Water Quality Manage., Dep. Environ. Conserv., Rm. 201, Albany, NY 12233-3562]

89-003180 Kite, Geoff. AN EXTENSION TO THE SALT DILUTION METHOD OF MEASURING STREAMFLOW. *Water Resour. Dev.* 5(1):19-24. 1989. FR 34(2)

[Hydrometeorol. Res. Div., Canada Climate Cent., Natl. Hydrol. Res. Cent., 11 Innovation Blvd., Saskatoon, SN, Canada S7N 3H5]

89-003181 Mohus, I. and B. Holand. FISH TELEMETRY EXPERIMENTS. *Sels. Ind. Tekn. Forskn. (Norway)* STF48-A86024. 61p. 1986. From U.S. Government Reports 87(24):19 1987. Available from NTIS as PB87-229787/GAR. FR 34(2)

89-003182 Molloy, Daniel P. and Robert H. Struble. A SIMPLE AND INEXPENSIVE METHOD FOR DETERMINING STREAM DISCHARGE FROM A STREAMBANK. *J. Freshwater Ecol.* 4(4):477-481. 1988. FR 34(2)

[Biol. Surv., N.Y. State Mus., State Educ. Dep., Cult. Educ. Cent., Albany 12230]

89-003183 Morgan, R. P. II; K. Jack Killgore and Neil H. Douglas. MODIFIED POINTE DESIGN FOR COLLECTING FISHES IN VARYING DEPTHS OF SUBMERSED AQUATIC VEGETATION. *J. Freshwater Ecol.* 4(4):533-539. 1988. FR 34(2)

[Univ. Md., Cent. Environ. & Estuarine Studies, Appalachian Environ. Lab., Frostburg 21532]

89-003184 Nash, Richard D. M.; Ying Sun and C. S. Clay. HIGH RESOLUTION ACOUSTIC STRUCTURE OF FISH. *J. Cons. Cons. Int. Explor. Mer* 44(1):23-31. 1987. FR 34(2)

[Environ. Sci. Cent., Unity Coll., Unity, ME 04988] Data for eight species.

89-003185 Rana, K. J. and B. J. McAndrew. THE VIABILITY OF CRYOPRESERVED TILAPIA SPERMATOZOA. *Aquaculture* 76(3/4):335-345. 1989. FR 34(2)

[Inst. Aquacult., Univ. Stirling, Stirling FK9 4LA, Scotland]

89-003186 Reid, D. G.; S. R. L. Bolt; D. A. Davies and E. Naylor. A COMBINED TIDE SIMULATOR AND ACTOGRAPH FOR MARINE ANIMALS. *J. Exp. Mar. Biol. Ecol.* 125(2):133-143. 1989. FR 34(2)

LEMON SHARK *NEGAPRION BREVIROSTRIS* (POEY) UNDER CONTROLLED CONDITIONS
Exp. Biol. (Berl.) 43(2):77-82. 1989. FR 34(2)
[Gruber: Div. Biol. & Living Resour., Rosensteil School Mar. & Atmos. Sci., Univ. Miami
4630 Rickenbacker Causeway, Miami, FL 33149]

89-003189 Serafy, J. E.; R. M. Harrell and J. C. Stevenson. QUANTITATIVE SAMPLING
OF SMALL FISHES IN DENSE VEGETATION: DESIGN AND FIELD TESTING OF PORTABLE
"POP-NETS". *J. Appl. Ichthyol.* 4(4):149-157. 1989. In English with German and French
summ. FR 34(2)
[Univ. Md., P.O. Box 775 HPEL, Cambridge 21613]

89-003190 Shenker, Jonathan M. OCEANOGRAPHIC ASSOCIATIONS OF NEUSTONIC
LARVAL AND JUVENILE FISHES AND DUNGENESS CRAB MEGALOPAE OFF OREGON. *U.S.
Natl. Mar. Fish. Serv. Fish. Bull.* 86(2):299-317. 1988. FR 34(2)
[Univ. Calif., Bodega Mar. Lab., P.O. Box 247, Bodega Bay 94923]

89-003191 Swenson, William A., William P. Gobin and Timothy D. Simonson. CALIBRATED
MASK-BAR FOR UNDERWATER MEASUREMENT OF FISH. *N. Am. J. Fish. Manage.* 8(3):382-
385. 1988. FR 34(2)
[Div. Sci. & Math., Cent. Lake Superior Environ. Studies, Univ. Wis., Superior 54880]

89-003192 Young, Michael K.; Wayne A. Hubert and Thomas A. Wesche. EVALUATION OF
VARIATION IN PERMEABILITY MEASUREMENTS WHEN USING THE MARK VI STANDPIPE
Can. J. Fish. Aquat. Sci. 46(3):447-450. 1989. In English with French summ. FR 34(2)
[U.S. Fish & Wildl. Serv., Coop. Fish & Wildl. Res. Unit, Univ. Wyo., Laramie 82071]

REVIEWS, BIBLIOGRAPHIES, ETC.

89-003193 Cambray, J. A. and G. G. Tougeles. SELECTED ANNOTATED BIBLIOGRAPHY OF
EARLY DEVELOPMENTAL STUDIES OF AFRICAN FRESHWATER FISHES. *Ann. Cape Prov.
Mus. Nat. Hist.* 18(2):31-56. 1988. FR 34(2)
[Albany Mus., Grahamstown 6140, South Africa]

89-003194 Eckert, G. L.; J. Kalish; J. Majkowski and R. Pethebridge. INDEXED
BIBLIOGRAPHY OF THE SOUTHERN BLUEFIN TUNA (*THUNNUS MACCOYII* (CASTLENAU
1872)). *CSIRO Mar. Labs* 185:54p. 1987. From U.S. Government Reports 88(9):18. 1988
Available from NTIS as PB88-156948/GAR. FR 34(2)

89-003195 Riley, A. L. STREAM RESTORATION BY THE BOOK - A LOOK AT RECENT
PUBLICATIONS. *Creek Currents: Newsl. Urban Creek Counc.* 2(1):1,3. 1987. From
Restoration Manage. Notes 6(2):98. 1988. Abstract only. FR 34(2)

89-003197 Virginia Institute of Marine Science. THE CHESAPEAKE BAY DIABLOID. *Restoration Manage. Notes* 6(2):106. 1988. FR 34(2)
[VIMS Library, Coll. William & Mary, Gloucester Point, Va 23062]

WATERSHED MANAGEMENT

89-003198 Stone, Albert W. MONTANA WATER ADJUDICATIONS: A CENTENNIAL HISTORY. *West. Wildlands* 14(4):18-24. 1989. FR 34(2)

MISCELLANEOUS

89-003199 Baugh, Thomas M. and James E. Deacon. EVALUATION OF THE ROLE OF REFUGIA IN CONSERVATION EFFORTS FOR THE DEVILS HOLE PUPFISH, *CYPRINODONTA DIBOLIS* WALES. *Zoo Biol.* 7(4):351-359. 1988. FR 34(2)
[2115 Nathan Dr. W., Jacksonville, FL 32216]

89-003200 Deacon, James E. THE ENDANGERED WOUNDFIN AND WATER MANAGEMENT IN THE VIRGIN RIVER, UTAH, ARIZONA, NEVADA. *Proc. Desert Fishes Council.* 18:199-193. 1987. FR 34(2)
[Univ. Nev., Las Vegas 89154] *Plagopterus argenteus*.

89-003201 Feldmeth, C. Robert and Thomas W. Bilhorn. THE SODA SPRINGS AQUIFER: CHANCES FOR THE CONTINUED SURVIVAL OF THE MOHAVE CHUB (*GILA BICOLOR MOHAVENSIS*). *Proc. Desert Fishes Council.* 17:146. 1987. Abstract only. FR 34(2)
[Bilhorn: Earth Sci. Consultants, San Diego, CA 92128]

89-003202 Hickman, Terry J. BONNEVILLE BASIN REPORT TO THE DESERT FISHES COUNCIL, 1984. *Proc. Desert Fishes Council.* 16:66. 1987. Abstract only. FR 34(2)
[West. Ecosyst., St. George, UT] *Chamistes ilorus*, *lotichthys philegethontis*, *Oncorhynchus clarki* utah, and *O. c. henshawi*.

89-003203 U.S. Fish and Wildlife Service. ENDANGERED SPECIES: THE ROAD TO RECOVERY. *Dep. Interior U.S. Fish Wildl. Serv.* 11p. 1988. Available from U.S. Fish Wildl. Serv., Publ. Unit, 18th & C St., NW, Mail Stop 1111, Arlington Square Bldg. Washington, DC 20240. FR 34(2)

89-003204 Valdez, Richard A. and Robert D. Williams. ENDANGERED FISHES OF CATARACT CANYON. *Proc. Desert Fishes Council.* 18:212-220. 1987. In English with Spanish summ. FR 34(2)
[Bio/West, Inc., Logan, UT 84321]

89-003205 Withers, Donna. NEVADA DEPARTMENT OF WILDLIFE'S ENDEMIC FISH PROGRAM--1985. *Proc. Desert Fishes Council.* 17:186-187. 1987. FR 34(2)
[Dep. Wildl., Las Vegas, NV 89158]

89-002054
 89-003146
 Abraham, M.
 89-001278
 Abrarenko, M. I.
 89-001871
 Abrans, Peter
 89-001922
 Absher, J. D.
 89-002785
 Acero P., Arturo
 89-002189
 Adam, A. B.
 89-001423
 Adam, Hans
 89-001569
 Adarczyk, D. L.
 89-001579
 Adams, Gary
 89-001428
 Adams, J. A.
 89-003021
 Adams, J. Rodger
 89-002849
 Adams, S. M.
 89-001923
 Adams, Timothy B.
 89-002786
 Addink, A. D. F.
 89-001839
 Afanas'ev, K. I.
 89-001921
 Agarwal, Chitra
 89-002500
 Agbayani, Renato F.
 89-001396
 Aggus, L. R.
 89-002622
 Agren, J. J.
 89-001749
 Aguayo H., Mario
 89-002173
 89-002174
 Ahradi, Asrhar Othman
 89-001345
 Ahne, W.
 89-002358
 Aida, K.
 89-001593
 89-001831
 Aida, Katsumi
 89-001580
 89-001711
 89-001825
 Aiken, Karl A.
 89-003022
 Akarine, J. S.
 89-002702
 Akiyama, Toshio
 89-002372
 Aksnes, O. L.
 89-003023
 Al-Akel, Ali S.
 89-002108
 Al-Sinawi, G. T.
 89-002839
 Alabaster, J. S.
 89-001581
 Albano, A. G.
 89-002481
 Albers, C.
 89-001818
 Albertini-Berhaut, Jocelyne
 89-001582
 Alcocer R., Cecilia
 89-001505
 Alenæs, I.
 89-002787
 Alfel, L.
 89-001520
 Alheit, Jurgen
 89-002111
 Ali, Muslim
 89-001583
 Allanson, B. R.
 89-002801
 Allee, David J.
 89-002796
 Allen, G. R.
 89-002240
 89-002241
 89-002242
 89-002243
 89-002256
 Allen, Gerald R.
 89-002262
 89-002280
 Allen, K. Radway
 89-002720
 Allen, Ken O.
 89-001470
 Allen, S.
 89-002840
 Allouse, S. B.
 89-001450
 Allue, C.
 89-003024
 Allue, R.
 89-001521
 Almaca, Carlos
 89-002022
 Almendras, J. M.
 89-001584
 Alpirez Quesada, Oliver
 89-002229

Amat, F.
 89-001449
 Amidei, R.
 89-002359
 Amin, Chahr M.
 89-002373
 Arslar, M. L.
 89-002882
 Arson, Jonathan E.
 89-002623
 Andersen, A.
 89-002410
 Andersen, Olvind
 89-001585
 Anderson, Bertin W.
 89-002945
 Anderson, James L.
 89-003025
 Anderson, John T.
 89-002097
 Anderson, Lee G.
 89-003026
 Andersson, E.
 89-001586
 89-001587
 Andersson, Gunnar
 89-002822
 Ando, Yoshiaki
 89-003160
 Andrews, Edmund D.
 89-002629
 Andrews, J.
 89-002841
 Andrews, P. C.
 89-001634
 Andrieu, J. P.
 89-002870
 Andriyasheva, M. A.
 89-001862
 Andrus, C. W.
 89-002624
 Antonic, K.
 89-002417
 Anzai, Hiroshi
 89-002545
 Aoki, T.
 89-001863
 Appelbaum, S.
 89-001487
 Appelt, Denah
 89-001522
 Arai, Katsutoshi
 89-001880
 Arai, Ken-ichi
 89-001797
 89-003161
 Aranis R., Antonio
 89-001588
 Arieli, Y.
 89-001473
 Arkhipkin, A. I.
 89-002175
 Arlot-Bonnemaïns, Y.
 89-001627
 Arnold, C. R.
 89-002534
 Arnold, Connie R.
 89-001612
 Arnold, Dean E.
 89-002843
 Arreguin-Sanchez, Francisco
 89-002656
 Astbury, Clyde E.
 89-002411
 Asgard, Torbjorn
 89-002398
 Ashby, S. L.
 89-002805
 Ashraf, M.
 89-002504
 Askaa, G.
 89-002410
 Assad, Hanan
 89-001583
 Atchison, Gary J.
 89-002496
 Ates, R. M. L.
 89-002135
 Athey, Leslie A.
 89-002476
 Atkinson, D. B.
 89-002176
 Atkinson, R. J. A.
 89-001774
 Atsuta, Shizuo
 89-002374
 Ault, Jerald S.
 89-002721
 Aure, J.
 89-003023
 Aure, Jan
 89-001430
 Austen, Douglas J.
 89-003167
 Auster, Peter J.
 89-003028
 Avtalion, R. R.
 89-001412
 Axelsson, M.
 89-001618
 Axelsson, Michael
 89-001589
 Ayling, A. M.
 89-002240
 Azeta, Masanori
 89-002045
 Azevedo, Carlos
 89-002341
 Bach, Pascal
 89-002722
 Bacila, Matry
 89-001590
 Badan-Dangon, Antoine
 89-002052
 Baekken, Torleif
 89-002844
 Baelde, Pascale

89-002846
 Bailey, R. S.
 89-003030
 89-003031
 Bailly, Denis
 89-001279
 Bailly, Yannick
 89-001656
 Bain, Mark B.
 89-002625
 89-002723
 Baird, T. A.
 89-001924
 Baird, William M.
 89-002542
 Baker, J. A.
 89-002238
 Baker, J. P.
 89-002479
 Baker, James L.
 89-002450
 Baker, Joshua S.
 89-002630
 89-003134
 Baker, K. W.
 89-002403
 Bakir (Al-Hakkak), Hussain Mohammad
 89-001459
 Bakkala, Richard G.
 89-002023
 Bakke, T.
 89-002480
 Bakos, Janos
 89-001280
 Ballantine, D. L.
 89-001835
 Balogun, Adebisi M.
 89-001460
 Bare, Gilbert
 89-003101
 Bare, Gilbert W.
 89-003056
 89-003145
 Bane, Nikki
 89-003032
 Banerjee, Partha P.
 89-001591
 Bankston, D.
 89-002708
 Banno, J. E.
 89-001831
 Barbosa, J. M.
 89-001285
 Bartour, S. E.
 89-002177
 Bardach, John E.
 89-001281
 Barko, John W.
 89-002812
 Barlow, George W.
 89-001925
 Barnabe, Gilbert
 89-001431
 89-001592
 Barry, T. P.
 89-001593
 Bart, Henry L., Jr.
 89-002847
 Bartell, S. M.
 89-002788
 Bartell, Steven M.
 89-002744
 Barthelemy, L.
 89-001620
 Barthelme, Otley
 89-002136
 Barton, Bruce A.
 89-001385
 89-002587
 Barus, Vlastimil
 89-001523
 Basaglia, Fulvia
 89-001594
 Basavaraja, N.
 89-001595
 Basolo, A. L.
 89-001926
 Bason, William H.
 89-002680
 Basson, M.
 89-002724
 Basterrechea Diaz, Manuel
 89-001498
 89-001499
 Bathurst, J. C.
 89-002784
 Batterman, A. R.
 89-002508
 Baugh, Thomas M.
 89-002219
 89-003199
 Baumgartner, Tim R.
 89-002052
 Bayley, D. L.
 89-001607
 Bayley, Peter B.
 89-003167
 Beall, E.
 89-001975
 89-002848
 Beamesderfer, R. C.
 89-002991
 Beamesderfer, R. D.
 89-002000
 Beanish, F. W. H.
 89-001596
 Beamish, R. J.
 89-002716
 Bean, C. W.
 89-002375
 Beard, L. A.
 89-001845
 Beaudelin, P.
 89-002870
 Beaulieu, Nicole
 89-002877
 Beck, J. N.
 89-002522

Behar, U.
 89-001472
 Behnke, Robert J.
 89-001903
 89-002239
 89-002244
 89-002245
 89-002618
 Beitinger, Thomas L.
 89-001795
 Bejda, A. J.
 89-002142
 Bell, Gordon R.
 89-001674
 Bell, T. G.
 89-002389
 Bellido, Manuel
 89-002252
 Bellwood, David R.
 89-001524
 Belmonte, Pedro
 89-001973
 Ben-Tuvia, Adam
 89-002246
 89-002566
 Ben-Zvi, Yigal
 89-001461
 89-001648
 Bence, James
 89-001987
 Benedetti, I.
 89-002481
 Benedetto, F.
 89-001598
 Benndorf, Angela
 89-002681
 Benndorf, Jurgen
 89-001500
 89-001501
 89-002681
 89-002754
 Bennett, James R.
 89-002086
 Bennett, Richard O.
 89-001597
 Bentivegna, F.
 89-001598
 Berg, Magnus
 89-002191
 Berg, Ole Kristian
 89-001919
 Bergersen, Eric P.
 89-002124
 Berkofsky, Louis
 89-002592
 Berland, Bjorn
 89-002377
 89-002378
 Bern, Howard A.
 89-001724
 Bernardet, J. F.
 89-002310
 Beredtsen, Amy Kathleen
 89-001599
 Berreth, D.
 89-002098
 89-002221
 Bettoli, P. W.
 89-002804
 Beulig, A.
 89-001929
 89-001940
 Bevan, Christopher J.
 89-001600
 Bezrukov, V. F.
 89-001866
 Bhatnagar, Pradeep
 89-002442
 Bhattacharya, Samir
 89-001591
 Bhowmik, Nani G.
 89-002849
 Bianchini, L.
 89-001716
 Bickham, John W.
 89-001867
 Bielak, A. T.
 89-002850
 Biggs, R. B.
 89-003013
 Bildeng, Rune
 89-002859
 Bilhorn, Thomas W.
 89-003201
 Billard, R.
 89-001355
 89-002970
 Billen, Gilles
 89-002650
 Bills, T. O.
 89-002482
 89-002483
 89-002665
 Binet, Denis
 89-002192
 Birge, Wesley J.
 89-002502
 Birkie, David E.
 89-002550
 Birley, A. J.
 89-001913
 Birley, Andrew J.
 89-001889
 Bisazza, A.
 89-001974
 Bisau, A.
 89-003034
 Bishop, C. A.
 89-001913
 Bisson, Peter A.
 89-002092
 89-002682
 Bjennig, Christina
 89-001601
 Bjornn, T. C.
 89-001623
 89-002952
 Bjornn, Theodore C.
 89-001756

89-002277
 cck, Barbara
 89-001522
 cqvist, P.
 89-002820
 culin, M.
 89-001943
 iarska, Maria
 89-002837
 ichardt, I.
 89-002308
 ienlert, G. W.
 89-002193
 iehlert, George W.
 89-002025
 iegen, Jim
 89-002851
 igle, M. A.
 89-002425
 isclair, D.
 89-002178
 olger, T.
 89-002035
 89-002036
 89-002037
 89-002725
 ulla, Sylvie
 89-001602
 ulsenga, S. J.
 89-003168
 olsstein, A. Richard
 89-003071
 olst, S. R. L.
 89-003186
 oltz, J. M.
 89-002009
 oltz, Jeffrey Martin
 89-001868
 oltz, S. E.
 89-002009
 olz, George R.
 89-001525
 orassi, P.
 89-002852
 89-002878
 orbeo-Tuburan, Isidra
 89-001396
 89-001432
 onar, S. A.
 89-001869
 onar, Scott A.
 89-002026
 Bonneville Power Administration
 89-001357
 89-001358
 89-002619
 89-002853
 89-002854
 89-002855
 Booke, Henry E.
 89-002625
 89-002723
 Boon, J. H.
 89-002360

89-001586
 89-001587
 89-001603
 Borg, Kathleen
 89-002484
 Borges, A. L. de O.
 89-002726
 Borgstrom, R.
 89-002235
 Borgstrom, Reidar
 89-002856
 Bornancin, H.
 89-001760
 Borowsky, R.
 89-001604
 Berski, R. J.
 89-001605
 Bortone, S. A.
 89-003036
 Boto, Kevin G.
 89-002554
 Bouchon-Navarro, Y.
 89-003037
 Bouchon, C.
 89-003037
 Bouck-Schmidt, Georgia
 89-001282
 Bouck, G.
 89-002382
 Bouck, Gerald R.
 89-001282
 Boude, J.-P.
 89-002661
 Boudreault, A.
 89-003172
 Boujard, Thierry
 89-001397
 Boulon, R. H.
 89-003038
 89-003039
 89-003040
 Bourges, J.
 89-002902
 Bourke, Robert E.
 89-003166
 Bourquin, A. W.
 89-002546
 Bousquet, B.
 89-002857
 Boullier, R. G.
 89-001832
 Bowen, R. E.
 89-003082
 Bowers, Karen L.
 89-002072
 Bowmaker, Alan
 89-002027
 Boyd, Claude E.
 89-001283
 Brabander, Jerry
 89-002907
 Bracken, J. J.
 89-002035
 89-002036

89-001780	Brouha, Paul
Bradley, T. M.	89-002556
89-001731	Brown-Peterson, Nancy
Brainerd, E. L.	89-001612
89-001526	Brown, A. F.
Brakke, David F.	89-002379
89-002437	Brown, A. M.
Brand, J. G.	89-003009
89-001607	Brown, Arthur V.
Brardon, Marielle	89-002851
89-003041	Brown, B. E.
Brandt, T. M.	89-002728
89-001849	Brown, C. L.
Brannon, E.	89-001613
89-001870	Brown, C. R.
Bratton, Susan	89-001614
89-001264	89-001690
Brauer, Fred	Brown, Christopher L.
89-002727	89-001615
Braverman, Susan Bonnie	Brown, D. J. A.
89-001608	89-002789
Breaser, Steven W.	89-002790
89-001930	Brown, E. A. R.
Breckert, A. L.	89-001616
89-002788	Brown, Hunting W.
Breslin, Vincent T.	89-002975
89-002412	Brown, M. S.
Breton, Bernard	89-002419
89-001609	Brown, Mark P.
89-001610	89-002415
Brewer, S.	Brundage, Harold M. III
89-001870	89-002028
Bricquet, J. Pierre	Brune, D. E.
89-002947	89-001324
Bridges, C. R.	Bruner, Kathleen
89-001774	89-002977
89-001775	Brunson, Ray
Brief, Stephen Michael	89-002338
89-002988	Brusher, Harold A.
Bright, Thomas J.	89-003042
89-002202	89-003108
Brill, Richard W.	89-003144
89-003166	Brussard, Peter F.
Brinck, Per	89-002557
89-002858	Brusven, Merlyn A.
Brisker, J.	89-002862
89-002321	Bruzy, A.
Bristow, Glenn A.	89-002870
89-002377	Bry, C.
89-002378	89-001417
Britski, H. A.	Bryan, R. B.
89-002349	89-003008
89-002355	Bryant, J.
Brittain, John E.	89-001682
89-002859	Bryant, Mason D.
Brittain, Thomas	89-002863
89-001611	Bryga, Heather
Broadus, J. M.	89-001567
89-003082	Buchanan, David V.
Broberg, O.	89-001359
89-002820	Buck, O. H.
Brocksen, Robert W.	89-001701
89-002413	Buckley, O.
89-002414	89-002642

89-001817
ley, R.
36-001308
nett-Herkes, James
89-003043
ney, Louis C.
89-001516
ns, J. R.
89-001527
r, Brooks M.
89-002099
rage, D.
89-002710
roughs, R. H.
89-003011
rton, David W.
89-001867
sch, R. L.
89-001284
ssing, William A.
89-002248
stamante, Rodrigo H.
89-002626
tler, John L.
89-002188
tler, M. J. A.
89-003044
tler, P. J.
89-001618
89-001743
torin, Nikolaj V.
89-002866
tzina, R.
89-002417
yrnes, I.
89-002380
aarano-Garcia, F.
89-002399
abrera Pena, Jorge
89-002229
abrera, Eladio Blanco
89-002249
addy, John
89-003091
atins, V. W.
89-002521
Calas, A.
89-001784
Calder, Fred D.
89-001516
California Department of Fish and Game
89-002657
Callard, G. V.
89-001637
Callard, I.
89-001669
Calle, H.
89-002902
Carbray, J. A.
89-003193
Cambre, M.
89-001745
Cameron, J. N.
89-001614

89-002371
Capallo, Susan M.
89-002558
Caputi, N.
89-003347
89-003175
Carchman, Richard A.
89-002487
Carey, John H.
89-002486
Carling, P. A.
89-002114
Carlson, Bruce
89-002149
Carlson, R. F.
89-002868
Carlson, Richard W.
89-002485
Carmichael, Gary J.
89-001474
Carmie, H.
89-001360
Caroff, J.
89-001620
Carolsfeld, J.
89-001285
89-001807
Caron, F.
89-003169
Carpenter, Stephen R.
89-001966
89-002791
Carpenter, Tim E.
89-002334
Carpentier, P.
89-001355
Carr, R. Scott
89-002464
Carr, Steven M.
89-001867
Carson, J.
89-002311
Carter, Charleata A.
89-001621
Carter, G. R.
89-002869
Carter, Ray R.
89-001470
Carter, Walter H.
89-002487
Casado, A.
89-002514
Casaubon, J.
89-002883
Case, J. F.
89-001741
Casillas, Edmundo
89-002505
Casper, S. Jost
89-002792
Casselman, J. M.
89-002800
Castilla, Juan C.

89-003170	Chen, J. Y.
Castro, Jose I.	89-001910
89-002030	Chen, C. F.
Cataldella, S.	89-001627
89-001915	Chen, J. Y.
Catony, Leonardo Depestre	89-002740
89-002249	Chen, Shiu-Nan
Cattaneo-Berrebi, G.	89-002330
89-001864	Chen, W. Y.
Cattaneo-Berrebi, Ghislaine	89-001627
89-001865	Chen, Y. X.
Cavadias, Eleni	89-002740
89-001622	Cheng, H. J.
Cavender, T. M.	89-001887
89-002869	Cheroweth, J.
Cavitte, J. P.	89-001819
89-002870	Cheroweth, Maymie
Cazzola, Emanuela	89-001625
89-001471	Cheng, L.
Cech, Joseph J., Jr.	89-002300
89-002187	Cherfas, N. B.
Cellot, Bernard	89-001871
89-002125	Chesapeake Bay Liaison Of
Ceusters, R.	89-003012
89-002376	Chess, James R.
Chadderton, W. L.	89-001932
89-002250	Chesson, Peter L.
Chaffin, Gerald R.	89-001984
89-002907	Cheng, Paul J.
Chakroff, H.	89-002381
89-001286	Cherrie, J. C.
Charpeau, Antoine M.	89-002057
89-002898	Chew-Lin, M.
Charnigneulle, A.	89-002300
89-001398	Chiang, H. C.
89-002031	89-001287
89-002793	Chiba, Akira
Chan, E. L. P.	89-001628
89-001850	Child, A. R.
Chandler, G. L.	89-001872
89-001623	Childress, James
Chandler, Kathryn A.	89-001740
89-003071	Chin Lai, N.
Chang, Kun-Hsiung	89-001692
89-001433	Chin-An Muh
Chang, Michael C. J.	89-002429
89-001624	Chinnappa, C. C.
Chang, S. L.	89-001897
89-001887	Chittenden, Mark E., Jr.
Chang, William Y. B.	89-002475
89-001399	Cheng, S. Y.
Chao, T. M.	89-002361
89-002300	Chen, T.
Chapman, B. J.	89-001436
89-001627	Choy, Satish
Chapman, David J.	89-001548
89-001298	Christensen, S. W.
Chapman, Duane C.	89-002479
89-001488	Chu Xinluo
Chapman, Gary A.	89-002251
89-002487	89-002269
Charania, S. H.	Chu, K. T.
89-002871	89-002361
Charest, Robert P.	Church, M. Robbins

89-003172
Connelly, P. L.
89-002725
Connors, Thomas J.
89-001802
Conover, David O.
89-001765
Conover, Martin C.
89-002561
Conrad, Jon M.
89-002418
89-003049
Contreras-Balderas, Salvador
89-002196
89-002197
89-002224
89-002225
Cook, B. A.
89-003050
Cook, Mark F.
89-002124
Cook, P. M.
89-002508
Conk, R. B.
89-002425
Cooper, James J.
89-002993
Cooper, S. D.
89-002875
Copeland, P. A.
89-001635
Copeland, Paul A.
89-001636
Copp, Gordon H.
89-002125
Corcoran, E. F.
89-002419
Corey, J. C.
89-002876
Corina, K.
89-001637
Corral, Laura
89-002341
Corst, Charles E.
89-002091
Cortes, J.
89-002902
Cossarini-Dunier, M.
89-002312
Cossarini-Dunier, Muriel
89-002420
Cost, Noel D.
89-002743
Costa-Pierce, Barry A.
89-001289
Coston-Clements, Linda
89-001704
Cote, Brenda
89-001684
Cote, Y.
89-002877
89-003172
Courtenay, Walter R., Jr.
89-002562
Coutant, C. C.

89-003172
Connelly, P. L.
89-002725
Connors, Thomas J.
89-001802
Conover, David O.
89-001765
Conover, Martin C.
89-002561
Conrad, Jon M.
89-002418
89-003049
Contreras-Balderas, Salvador
89-002196
89-002197
89-002224
89-002225
Cook, B. A.
89-003050
Cook, Mark F.
89-002124
Cook, P. M.
89-002508
Conk, R. B.
89-002425
Cooper, James J.
89-002993
Cooper, S. D.
89-002875
Copeland, P. A.
89-001635
Copeland, Paul A.
89-001636
Copp, Gordon H.
89-002125
Corcoran, E. F.
89-002419
Corey, J. C.
89-002876
Corina, K.
89-001637
Corral, Laura
89-002341
Corst, Charles E.
89-002091
Cortes, J.
89-002902
Cossarini-Dunier, M.
89-002312
Cossarini-Dunier, Muriel
89-002420
Cost, Noel D.
89-002743
Costa-Pierce, Barry A.
89-001289
Coston-Clements, Linda
89-001704
Cote, Brenda
89-001684
Cote, Y.
89-002877
89-003172
Courtenay, Walter R., Jr.
89-002562
Coutant, C. C.

Crawford, D. L.
 89-001361
 89-001362
 Crawford, R. E.
 89-002033
 Creager, C. S.
 89-002479
 Creaser, Edwin P.
 89-002126
 Crecco, Victor A.
 89-002081
 Crecelius, E. A.
 89-003139
 Creutzberg, F.
 89-002140
 Cribb, T. H.
 89-002383
 Criddle, Richard S.
 89-001593
 Crim, J. W.
 89-001847
 Crim, L. W.
 89-001290
 89-001807
 Crim, Laurence W.
 89-001584
 89-001639
 89-001736
 Cripe, C. R.
 89-002546
 Crisp, O. T.
 89-002114
 Crivelli, A. J.
 89-001854
 Crockett, E. L.
 89-001640
 Croissant, Richard D.
 89-001328
 Crooke, Stephen J.
 89-003069
 Cross, Thomas F.
 89-001724
 Crow, Gerald L.
 89-002381
 Crowder, Larry B.
 89-002794
 Crupkin, Marcos
 89-001689
 Csergeri, I.
 89-001291
 Cudlip, L. S.
 89-002594
 Cui, Y.
 89-002733
 Cuinat, R.
 89-002878
 Cullis, B.
 89-002336
 Cunjak, Richard A.
 89-001936
 Curtis, L. T.
 89-002627
 Curtis, Lawrence R.
 89-002487
 Cuvin, M. L. A.

89-001510
 89-002789
 Dammann, A. E.
 89-003039
 Danehy, Robert J.
 89-002034
 Danger, J. M.
 89-001784
 Daoust, P.-Y.
 89-002313
 Dartiquelongue, J.
 89-002718
 Datta Munshi, J. S.
 89-002527
 Daulay, T.
 89-001786
 Daoud, H. A.
 89-002035
 89-002036
 89-002037
 Davenport, J.
 89-001809
 Davenport, Thomas E.
 89-002428
 Davidowicz, Piotr
 89-001265
 Davies, D. A.
 89-003186
 Davies, H. M.
 89-002179
 Davin, William T., Jr.
 89-002490
 Davis, James E.
 89-002734
 Davis, James T.
 89-001292
 Davis, Michael W.
 89-001992
 Davis, P. S.
 89-002198
 Davis, W. P.
 89-003036
 Davison, W.
 89-001643
 Dawe, D. L.
 89-002356
 Dawley, Robert M.
 89-001874
 Dawson, Chad P.
 89-002795
 Dawson, V. K.
 89-002482
 89-002483
 Dawson, Wendy A.
 89-001889
 Day, T. J.
 89-002995
 De Boer, T.
 89-001502
 de Castillo, V. G.
 89-001415
 de Chiara, C.
 89-003051
 89-002150

02533
e, Amaury
01645
reira Carvalho, Newton
02879
ra, Sena S.
03007
toa, A.
002199
toa, F. J.
002199
James E.
001937
002013
002200
002219
002297
003199
003200
John Mark
001571
Sharon E.
002421
ellis, D. L.
001923
ellis, Donald L.
002744
ng, John A.
002798
n, James E.
002940
ckering, J. A.
002422
mps, H.
9-002880
ni, G.
9-001646
ni, Gad
9-001435
9-001461
9-001647
9-001648
9-001652
raaf, Dirk A.
9-002201
uchi, Yoshiaki
9-002331
tner, R.
9-002731
ning, J.
9-001378
Corral, Fernando
9-002314
P. Frias, Ma.
9-002234
lany, Dan
9-002082
larue, J.
9-002628
lbeek, J. Charles
9-002096
lous, G.
9-001638

Denny, S. J.
89-001293
Denton, Thomas E.
89-001545
Derenne, Ph.
89-002370
Desser, S.
89-002342
Deuel, David G.
89-003121
Devadasan, K.
89-001750
Devauchelle, N.
89-001436
Dew, C. Braxton
89-002141
Di Fiore, Dean
89-002503
Diamant, A.
89-002343
89-002384
Diaz-Pardo, E.
89-002203
Dickhoff, Walton W.
89-001827
Dickinson, W. T.
89-002469
Dickson, A.
89-001510
Dickson, James G.
89-002565
Dickson, K. A.
89-001649
Dickson, Kathryn Ann
89-001650
Dickson, William
89-002693
89-002694
Didier, D. A.
89-001528
Dill, William A.
89-002566
Dimentman, Ch.
89-002648
Dimnick, Walter W.
89-002099
Dimond, Patricia E.
89-002446
Dinardo, Gerard
89-002107
Ding, Lin
89-001740
Dingerkus, Guido
89-002038
Dinkins, B. J.
89-002600
Ditton, R. B.
89-002567
Dixon, D. G.
89-002520
Dixon, P. F.
89-002367
Djama, T.
89-003052

89-001747
 Dodson, Stanley I.
 89-002830
 Donald, John A.
 89-001651
 Donaldson, Edward M.
 89-001803
 Donohue, K.
 89-003047
 Dooley, H. O.
 89-003053
 Dore, F. Y.
 89-002939
 Dore, Francois Y.
 89-001746
 89-001747
 Dore, Mary Ellen
 89-002881
 Dores, R. M.
 89-001579
 89-001847
 Dorovskikh, G. N.
 89-002344
 Dorson, D.
 89-002456
 Dorward, W.
 89-002299
 Dosanjh, B. S.
 89-001674
 Dosoretz, Carlos
 89-001652
 Dotson, Thurston
 89-001379
 Doucet, P. G.
 89-002763
 Douglas, N. H.
 89-002918
 Ocuglas, Neil H.
 89-003183
 Down, N. E. (Ted)
 89-001803
 Drago, E. C.
 89-002882
 Dremiere, P. Y.
 89-003054
 Drenner, Ray W.
 89-002794
 Driedzic, W. R.
 89-001640
 Driedzic, William
 89-001601
 Dropsy, Blaise
 89-001437
 Drost, M. R.
 89-002736
 Drottat, K. R.
 89-001686
 Droy, Brad F.
 89-001653
 du Preez, Hein H.
 89-001654
 Dubois, J.-M.
 89-003172
 Dubourg, P.
 89-001784

Dugatkin, L. A.
 89-001938
 Duke, R.
 89-003174
 Dulka, Joseph G.
 89-001735
 Dumas, J.
 89-001363
 89-002883
 Dumke, Roger
 89-002681
 Dunel-Erb, Suzanne
 89-001656
 Dunkle, Frank
 89-002569
 Dunkley, D. A.
 89-002737
 Dunn, Arnold
 89-001625
 Dunn, Robert C.
 89-001780
 Dunning, Dennis J.
 89-001400
 89-002738
 Dupont, F.
 89-001864
 Durako, Michael J.
 89-002570
 Dureza, Lourdes Arcinue
 89-002493
 Durst, H. O.
 89-001835
 Duston, James
 89-001657
 Dutil, J.-D.
 89-001658
 89-001939
 Dutta, H. M.
 89-002532
 Dutta, Nilima
 89-002803
 Dux, Laszlo
 89-001659
 Dwiponggo, A.
 89-003029
 Dworsky, Leonard B.
 89-002796
 Dwyer, M.
 89-001940
 Dwyer, William P.
 89-001364
 89-002385
 Dycus, D. L.
 89-002494
 89-002495
 Dyer, R. S.
 89-002433
 Dyer, Scott O.
 89-002496
 Dygert, Peter H.
 89-001693
 Eales, J. G.
 89-001660
 Easley, J. E., Jr.
 89-003055

89-001661
 Eddy, F. B.
 89-001830
 89-001848
 89-002549
 Edgar, G. J.
 89-002273
 Edwards, J. S.
 89-003175
 Edmonds, Les
 89-001477
 Edmondson, W. T.
 89-002797
 Edwards, Randy E.
 89-001438
 89-003122
 Edwards, Robert J.
 89-001875
 Ehrenstrom, F.
 89-001618
 Eichelberg, Helga
 89-001543
 Eidt, Conrad H.
 89-002884
 Eilers, Joseph M.
 89-002473
 Einarsson, S. M.
 89-002177
 Eisler, Ronald
 89-002497
 Eklund, J.
 89-002121
 Eklund, Jan
 89-002039
 Elder, J. F.
 89-002885
 Eldon, Tony
 89-001529
 Eldridge, Peter
 89-003032
 Elekcs, K.
 89-001294
 Ellersieck, Mark R.
 89-002518
 Elliott, J. C.
 89-002991
 Elliott, J. M.
 89-001876
 Ellis, A. E.
 89-002301
 Ellis, Derek V.
 89-002424
 Ellner, S.
 89-001443
 Ellsaesser, Catherine F.
 89-001662
 Ellsworth, Steven W.
 89-003056
 Elston, R. A.
 89-002345
 Elston, R. E.
 89-003139
 Eltink, A. T. G. W.
 89-002040
 Ender, R.
 89-001721
 Enderlein, O.
 89-001941
 England, R. H.
 89-002886
 Engle, C. R.
 89-001415
 Environmental Protection A
 89-002426
 Erbs G. Vicente
 89-002173
 Ercolici, Carlo
 89-001531
 Erdaahl, A. L.
 89-001631
 Erez, J.
 89-001443
 Ergenzinger, Peter
 89-002887
 Erman, Dan C.
 89-002629
 Ermolenko, L. N.
 89-001877
 Ervik, A.
 89-001336
 Ervik, Arne S.
 89-001430
 Escover, E. M.
 89-001401
 Esquivel Herrera, Alfonso
 89-001533
 Etchberger, Karen Jane
 89-002363
 Euzenat, G.
 89-002892
 Evans, Dale R.
 89-001365
 Evans, Geoffrey T.
 89-002739
 Evelyn, T. P. T.
 89-002299
 Evensen, Oystein
 89-002305
 Evensen, Tor Henning
 89-002888
 Evers, Erik H. G.
 89-002427
 Everson, L. B.
 89-002841
 Ewing, R. D.
 89-001361
 89-001362
 Fable, William A., Jr.
 89-003056
 89-003145
 Fabregas, J.
 89-001663
 Fagard, J. L.
 89-002892
 Fagbenro, O. A.
 89-001402
 Fago, Don

89-C02930
 Find, D.
 89-C02740
 89-C02869
 Find of the L.N.
 89-C01295
 Findas, Anthony J.
 89-C01695
 Findbrother, R. W.
 89-C02741
 Findcher, Robert C.
 89-C01664
 Findas, Martin
 89-C01536
 Findas, J.
 89-C01256
 Find, D. E.
 89-C02042
 Find, J. C.
 89-C02742
 Findsch, Kurt D.
 89-C02690
 Findcett, Robert S.
 89-C02571
 Findell, J. K.
 89-C02498
 Find, C. B.
 89-C03044
 Find, Richard R.
 89-C01665
 89-C01666
 Findad, Sanaa
 89-C01583
 Findhelm, Robert G.
 89-C02630
 Findger, Karl-Heinz
 89-C02555
 Findst, Timothy James
 89-C01511
 Findureth, C. Robert
 89-C03201
 Findllingham, G. W.
 89-C03139
 Findrer, Kenneth A.
 89-C02428
 Findguson, H. W.
 89-C02299
 89-C02403
 Findguson, Mark
 89-C03003
 Findguson, Maury O.
 89-C03057
 Findernandez Casal, J.
 89-C02399
 Findernandez-Coloce, V.
 89-C02199
 Findernandez-Delgado, Carlos
 89-C02252
 Findernandez, J.
 89-C01667
 Findernandez, Justa
 89-C02255
 Findernandez, Justa M.
 89-C02253
 Findernando, H. M.
 Findler, P. C.
 89-C02891
 Findbin, G. J.
 89-C02435
 Findeti, L.
 89-C01669
 Findlay, K. P.
 89-C01962
 Findn, James E.
 89-C02159
 Findn, John T.
 89-C02625
 89-C02723
 Findney, Bruce P.
 89-C02429
 Findre, J.
 89-C02731
 Find Passage Center
 89-C01670
 89-C01942
 Findscher, Paul C.
 89-C01932
 Findshelson, Lev
 89-C02168
 Findsher, Joseph P.
 89-C02073
 Findshman, Alfred P.
 89-C01671
 Findtgerald, D.
 89-C01655
 FindtGerald, G. J.
 89-C01943
 89-C02015
 89-C02077
 Findtpatrick, Martin S.
 89-C01672
 Findtsimmons, Kevin Michael
 89-C01944
 Findtsimons, J. D.
 89-C02521
 Findvizzani, A. J.
 89-C01673
 Findjellheim, Arne
 89-C02844
 Findagg, S. D.
 89-C02885
 Findagg, T. A.
 89-C02678
 Findebbe, Patricia A.
 89-C02743
 Findemer, D. A.
 89-C03013
 Findlickinger, Stephen A.
 89-C02990
 Findik, Gert
 89-C01698
 89-C01846
 Findores Nava, A.
 89-C01403
 Findores, J. A.
 89-C01527
 Findoley, Patrick J.
 89-C01266
 Findonsec, Tomas R.

89-001983
89-002817
Furnshell, Gary C. G.
89-001266
Forster, Ian
89-001674
Fortin, Rejean
89-001541
Foscarini, R.
89-001532
Foss, Per
89-001801
Fossa, Jan Helge
89-003177
Fossat, B.
89-001716
Foster, G. D.
89-001675
89-001676
Foster, Ian D. L.
89-002798
Fouchereau-Peron, M.
89-001677
Fournel, Francoise
89-002892
Fox, J.
89-002669
Fox, Michael E.
89-002486
Fox, William W., Jr.
89-002721
Fraleigh, J.
89-002929
Frandsen, F.
89-002386
Frankenberg, D.
89-003058
Franzin, W. G.
89-002211
Franzini-Armstrong, C.
89-001522
Freay, A. D.
89-002419
Freeland, Thomas M.
89-001653
Freeman, Mary C.
89-001945
Freese, Steve
89-003059
French, J.
89-002670
French, Jim
89-001916
French, John R. P. III
89-001946
French, R. D.
89-002994
Frenette, M.
89-002893
Fricke, H.
89-002044
Friedland, K. D.
89-002142
Friedman, Marcia

89-002305
Fryer, J. L.
89-002302
89-002329
Fu, En-Bo
89-002695
Fujii, Tetsuo
89-002045
Fujino, Kazuo
89-001880
Fujioke, Jeffrey T.
89-003133
Fukamachi, Tokuzo
89-002696
Fukuhara, O.
89-002180
Fukumoto, Michikazu
89-002331
Fuller, C. A.
89-002006
Fuller, Deborah
89-001434
Fuller, Deborah A.
89-002732
Funes-Rodriguez, Rene
89-001533
Furbish, Elaine
89-001264
Furnell, Donald James
89-001679
Furness, R. W.
89-002488
Fusetani, Nobuhiro
89-001680
Fuss, Joseph T.
89-001297
89-001489
Fuste, L. A.
89-002452
Fyhn, Hans Jorgen
89-001722
Gadjjev, G. K.
89-002745
Gadonski, D. M.
89-001961
Gagal'chii, N. G.
89-001881
89-001882
Galante, R. J.
89-001671
Galat, David L.
89-001681
Gallagher, M. L.
89-001646
Gallaway, Benny J.
89-001867
89-002746
89-002771
89-003134
Gallet de Saint-Aurin, D.
89-001439
Gamperl, A. K.
89-001682
Gangneung, Rieng

Garcia de Leoniz, C.
89-001883
Garcia Puebla, Manuel
89-002572
Garcia, E. P.
89-002996
Gardenier, J. T.
89-001382
Gardner, R. H.
89-002788
Gargas, Joe
89-001478
Garibaldi, Luis E.
89-001440
Garling, O. L., Jr.
89-002389
Garling, Donald L., Jr.
89-001769
Garman, G. C.
89-002142
Gartner, J. V., Jr.
89-002303
Garzon, Jaime
89-002189
Garzon, P.
89-002204
89-002205
89-002208
Gatlin, Delbert M. III
89-001462
Gattie, D. K.
89-002925
Gaudin, P.
89-001948
Gaugush, R. F.
89-002805
Gauldie, R. W.
89-002179
89-002671
Gautvik, Kaare M.
89-001585
Gayou, F.
89-001363
89-002870
Gazey, William J.
89-002746
Gebhart, Glen E.
89-002046
Gee, John H.
89-001622
Geiger, James G.
89-001446
Gellenbeck, Kevin W.
89-001298
Gelman, A.
89-002143
Gelos, E.
89-001520
Genin, Anatzia
89-002193
Gennaro, J.
89-002669
Gentile, John H.
89-002464
George-Nascimento, M

89-003060
Germany, Raymond O.
89-002069
Gerstung, Eric R.
89-002209
Gertler, Arich
89-001702
Ghittino, Pietro
89-001531
Gibbs, A.
89-001683
Giesy, J. P.
89-002489
Giguere, Louis A.
89-001684
Gili V., Raul
89-002173
Gill, H. S.
89-001534
89-001843
Gillet, C.
89-002031
89-002793
Gillet, Christian
89-001609
89-001610
Gilliam, Ken
89-002338
Gingerich, W. H.
89-001685
89-001686
Girt, I. Nyoman Adismara
89-001786
Giroux, A.
89-001939
Gjerde, Bjarne
89-001884
Glass, H. J.
89-001687
Gliwicz, Z. Maciej
89-001265
Gloss, Steven P.
89-001898
89-002631
89-002747
Gloumeau, J. F.
89-002687
Glova, Gordon
89-001535
Gobalet, K. W.
89-001536
Gobas, Frank A. P. C.
89-002499
Gobin, William P.
89-003191
Goda, Takeshi
89-002432
Goddard, Kathryn A.
89-001874
Godin, J.-G. J.
89-001950
Godo, Olav Rune
89-002127
89-002128

89-002237
 89-002258
 89-002259
 89-002260
 89-002272
 Gondeaux, E.
 89-003034
 Gong Mingyao
 89-002371
 Gonzalez, Arcadio Valdez
 89-001299
 Gonzalez, O.
 89-001667
 Goodman, L. K.
 89-001325
 Goodreau, Louis J.
 89-003061
 Goodrich, C. L.
 89-001366
 Goodrich, J. A.
 89-002873
 Goodwin, M. H.
 89-003040
 89-003062
 Goos, H. J. Th.
 89-001644
 Gopakumar, K.
 89-003165
 Gorbman, Aubrey
 89-001782
 Gorden, R. W.
 89-001701
 Gordon, J. A.
 89-002997
 Gordon, M. S.
 89-001690
 Gosline, William A.
 89-001537
 Gosztonyi, Atila Esteban
 89-001538
 Goto, A.
 89-001788
 Goto, Tsuneo
 89-002047
 Gots, B. L.
 89-001556
 Gotshall, D. W.
 89-002433
 Gottofrey, James
 89-002484
 Gottschall, F. M.
 89-001844
 Goudie, Cheryl A.
 89-001408
 Goulding, Michael
 89-002895
 Govoni, John J.
 89-002896
 Grabner, M.
 89-001691
 Gracia-Sanchez, Jesus
 89-002998
 Grady, James M.
 89-002099

89-001724
 89-001756
 Graves, Kerry G.
 89-001490
 89-003178
 Gray, R. H.
 89-001951
 Graynoth, Eric
 89-002897
 Greeley, M. S., Jr.
 89-001777
 Green, Albert W.
 89-003057
 Green, Bartholomew W.
 89-001404
 Green, David H.
 89-002100
 Green, W. R.
 89-002799
 Green, William L.
 89-001268
 Greening, H. S.
 89-002435
 Greening, Holly S.
 89-002914
 Greenwood, P. H.
 89-002048
 Greger, Paul
 89-001937
 Gregg, Barbara A.
 89-001446
 Gregoire, Alain M.
 89-002898
 Grelsson, Gunnel
 89-002899
 Gresswell, Robert E.
 89-001367
 89-002049
 89-002094
 Greulich, A.
 89-001710
 Grew, Robert
 89-002798
 Grewe, Peter M.
 89-001368
 Grieshaber, M. K.
 89-001775
 Griffith, David C.
 89-003097
 89-003155
 89-003159
 Griffith, J. S.
 89-001952
 Griffiths, William B.
 89-002003
 89-002630
 Grigg, G. C.
 89-001845
 Grimes, Churchill B.
 89-001953
 89-002054
 89-003146
 Grimm, M. P.

Gross, Marjorie
89-001695
Grosse, Daniel J.
89-002050
Gruber, D.
89-001955
Gruber, Samuel H.
89-001828
89-003188
Grygierak, Eugenia
89-002989
Gu Zhennan
89-002371
Guderley, H.
89-001943
Gueguen, Jacques
89-003063
Gueredrat, J. A.
89-003064
Guerin, V.
89-002312
Guibbolini, M.
89-001716
Guillard, J.
89-002793
Guillou, A.
89-003064
Guinard, C.
89-002900
Guirriec, H.
89-002090
Guise, Kevin S.
89-001695
Gulati, Ramesh D.
89-001265
Gulliksen, Bjorn
89-001699
Gunawardene, R. S.
89-002407
Gunderson, Donald R.
89-001693
89-002059
Gunkel, R. C.
89-002805
Gunn, J. H.
89-002800
Gunn, J. S.
89-003105
Gunn, J. T.
89-001504
Gunn, John M.
89-002440
Gunter, K.-O.
89-001641
89-001642
Gupta, B. N.
89-002500
Gus, Camelia
89-003163
Gustard, Alan
89-002901
Gutierrez-Urbe, Consuelo
89-001539
Guy, H. R.
89-002660

89-002531
Hachmeister, L. E.
89-001504
Hackett, Perry B.
89-001695
Hackney, Gary E.
89-001300
Hackney, P. A.
89-002574
Haddad, Kenneth D.
89-002570
Hadderingh, R. H.
89-002632
Hadi, R. A. M.
89-002409
Haedrich, Richard L.
89-002776
Haegg, A.
89-001369
Haf Ouyang
89-001399
Haider, S.
89-001694
Haines, Terry A.
89-002434
Hairston, Nelson G., Jr.
89-002145
Haith, Douglas A.
89-002415
Hajek, Ernst R.
89-002146
Hales, L. S.
89-002051
Hall, C. M.
89-002801
Hall, Donald J.
89-002744
Hall, I. N.
89-001553
Hall, W. B.
89-003027
Hallerman, Eric M.
89-001695
Halliwell, David B.
89-002903
Hamaguchi, Masami
89-002320
Hamilton, Steven J.
89-002434
Hamman, M. Gregory
89-002052
Hampton, Ian
89-002024
Hampton, Kent E.
89-002129
Hamrin, Stellan F.
89-002822
Han-Ching, L.
89-003066
Handel, H. C.
89-002000
Handley, James M.
89-002922

Hansen, L. P.
89-001559
89-001697
Hansen, Lars P.
89-001441
Hanson, J. M.
89-002213
Hanssen, Robert G. J. M.
89-001698
Hanyu, I.
89-001593
89-001831
Hanyu, Isao
89-001711
89-001825
Hara, Tosniaki J.
89-001856
Harada, Katsuhiko
89-002668
Harbicht, S. M.
89-002211
Hardy, Graham S.
89-002261
Hargis, William J., Jr.
89-002533
Harr, R. Dennis
89-002931
Harrell, L. H.
89-002345
Harrell, R. M.
89-003189
Harrell, Reginal M.
89-001405
Harrison, Ian James
89-001540
Hartman, R. D.
89-002697
Harvey, B.
89-001285
Hasegawa, Eichf
89-002701
Hashimoto, Kanehisa
89-001680
89-001764
Hashimoto, Tamiko
89-001467
Hassler, Thomas J.
89-001370
Hataf, K.
89-002339
Hataf, Kishio
89-002315
Hatch, U. L.
89-001415
Hathhorn, Wade E.
89-002782
Haug, Tore
89-001699
89-002127
89-002128
89-002401
Haughton, Milton
89-003022

Haynes, James M.
89-001949
Haynes, S. P.
89-001733
Hayward, Robert Scott
89-001700
Hearn, W. S.
89-002720
Hearn, William E.
89-002583
Hebert, Paul D. N.
89-001368
Hechanova, Ricardo G.
89-001302
Hecker, S.
89-003068
Hedgcock, Dennis
89-001886
Hedrick, R. P.
89-002347
89-002360
Heggberget, Tor G.
89-002633
Heggnes, J.
89-002235
Heggnes, Jan
89-002904
Heiligenberg, W.
89-001860
Heinsbuch, D. G.
89-002435
Heinen, John M.
89-001266
89-001491
Heinsbruek, L. T. N.
89-001406
Heki, Lisa G.
89-002220
Heland, M.
89-002905
Helms, L. M. H.
89-001605
Helvey, Mark
89-003069
Heming, Tom
89-001853
Hemmer, M. J.
89-001325
Henault, Michel
89-001541
Henderson-Arzapalo, Anne
89-001445
Henderson, Bruce D.
89-001438
Henderson, P. A.
89-002147
Hendrey, George R.
89-002436
Henricks, Jerry D.
89-002340
Hendrickson, Dean A.
89-001542
89-002053

Herbold, Bruce Leroy
89-002148
Herche, Lynn R.
89-002834
Herke, W. H.
89-002697
Herman, Roger Lee
89-002388
Hermens, J. L. M.
89-002492
Hernando, Jose A.
89-002252
Herrera, Francisco C.
89-001781
Herrera, Mercedes
89-002252
Herring, Peter J.
89-001619
Hertwig, Iris
89-001543
Hertz, Yitzhak
89-001702
Herwitz, S.
89-001487
Hesse, Larry W.
89-002907
Hesthagen, T.
89-002684
Hetrick, F. M.
89-001912
Hewitt, Roger P.
89-002748
Hibiya, Takashi
89-001824
Hickcox, David H.
89-002802
Hickley, P.
89-002942
Hickman, D.
89-002994
Hickman, Terry J.
89-002908
89-003202
Hiett, Robert L.
89-003071
Hieu, Le Huu
89-001659
Higgins, P. J.
89-002011
Higgs, David A.
89-001674
Hikita, T.
89-002685
Hilborn, Ray
89-002672
89-002699
89-002780
Hilden, Mikael
89-002404
89-002749
Hilker, David
89-002460
Hill, J. M.
89-001371

89-002722
Hobson, James F.
89-002502
Hochheimer, John N.
89-001405
Hockin, D. C.
89-002130
Hodson, R.
89-002824
Hoekstra, Thomas W.
89-002743
Hoese, Douglass F.
89-002262
89-002263
Hofer, R.
89-001691
89-002158
Hoffnagle, T.
89-001673
Holland, B.
89-003181
Holden, A. V.
89-002909
Holland, N.
89-001378
Holm, Jens Chr.
89-001372
Holmefjord, Ivar
89-001602
Holmes, Janet Martha Lee
89-001956
Holmes, R. H. A.
89-002147
Holmgren, Susanne
89-001601
89-001617
Holmquist, Jeff G.
89-002007
89-002008
Holopainen, Ismo J.
89-002185
Holt, R. A.
89-002318
Holtzman, S.
89-001703
Honma, Yoshiharu
89-001628
Hontoria, F.
89-001449
Hood, Peter B.
89-002054
Hoogveld, H. L.
89-001502
Hoorebecke, R.
89-002902
Hopkins, C. C. E.
89-002106
Hopkins, J. Stephen
89-001454
Hopkins, Kevin
89-001413
Horiuchi, R.
89-001854
Horn, M. H.

Hosaka, Tomoyuki

89-001880

Hose, Jo Ellen

89-002503

Hoss, Donald E.

89-001704

89-002896

Hourigan, T. F.

89-001544

Hourigan, Thomas F.

89-001756

89-002149

Houston, A. H.

89-001752

Howard, Robert K.

89-003072

Howarth, Robert W.

89-002812

Howe, G. E.

89-002482

Howe, Jeffrey C.

89-001705

89-003097

Howell, Penelope

89-002664

Howell, W. Mike

89-001545

Howells, G. D.

89-002789

Howlader, M. S.

89-001423

Howlett, J. C.

89-001596

Hoyer, Mark V.

89-002084

Hrissanthou, V.

89-002751

Hsu, Tachuan

89-002332

Huang, C. M.

89-001887

Hubble, J. D.

89-002042

Hubbs, Clark

89-001875

Hubert, Wayne A.

89-001488

89-002085

89-002181

89-003192

Hubble, Raymond C., Jr.

89-002575

Huet, G.

89-002090

Huettl, Reinhard F.

89-002555

Hughes, G. M.

89-001706

Hulsh, Melvin T.

89-002076

Hulsman, K.

89-002634

Hung, Silas S. O.

89-001820

Huntingford, P. A.

89-001958

89-001960

Huque, T.

89-001607

Hurlbert, Stuart H.

89-002744

Hushak, Leroy J.

89-002803

Hutchins, J. B.

89-002264

89-002287

Hwang, D. J.

89-002583

Hwang, Pung-Pung

89-001707

Hwang, H. H.

89-001455

Hyatt, Kim J.

89-001959

Hyllton, R. E.

89-002804

Hyman, E. L.

89-002700

Hynes, H. B. N.

89-002910

Ibrahim, A. A.

89-001960

Ikonen, Erkki

89-002911

Iliina, J. O.

89-001871

Inakka, Hakaru

89-001809

Inbaraj, R. Moses

89-001694

Incze, Lewis S.

89-002055

89-002095

Inoue, Mutsuhisa

89-002316

Inouye, Laura S.

89-002507

International Pacific Health

89-002620

Ip, Y. K.

89-001555

89-001723

Ireland, C. D.

89-001957

Isaksson, Arnt

89-001373

89-003130

Ishida, R.

89-002014

Ishiguro, T.

89-001376

Ishii, S.

89-002014

Ishikura, Tsuneh

89-002701

Ishio, Shinya

89-001753

89-002132

89-002504
Jager, J. C.
89-002763
Jahn, A. E.
89-001961
Jalibert, M.
89-001355
James, A. G.
89-001962
James, Gavin
89-002913
Jamieson, A.
89-001913
Jamieson, Alan
89-001888
89-001899
Jamieson, Glen S.
89-002218
Janicki, Anthony
89-002914
Janik, Phil
89-002576
Jansson, Eva
89-002333
Jansson, Eva K.
89-002335
Jansson, Mats
89-002821
Jarchow, Raymond
89-002156
Jarman, M. C.
89-003074
Jarvi, T.
89-001559
Jastrzebski, Miroslaw
89-002346
Jayko, K.
89-002456
Jazdzewski, C.
89-002840
Jeffries, Michael
89-002752
Jegou, Bernard
89-001572
Jellyman, Don
89-002056
Jenkins, D.
89-002439
Jenkins, R. M.
89-002622
Jenkins, T. M.
89-002875
Jenkins, Wallace E.
89-001454
Jensen, A. L.
89-002753
Jensen, Buddy L.
89-001335
Jensen, Carlo F.
89-002915
Jensen, Frank
89-002915
Jensen, John W.
89-002916

Johnsen, B. O.
89-002150
89-002684
Johnsen, R. C.
89-002999
Johnson, C. W.
89-002784
Johnson, D. B.
89-002919
Johnson, G. R.
89-002313
Johnson, Harrel B.
89-002691
Johnson, James E.
89-001335
89-002917
Johnson, Jeffrey C.
89-003155
89-003159
Johnson, Lyndal L.
89-002505
Johnson, Orlay William
89-001890
Johnson, V. Kay
89-002560
Johnson, W. E.
89-001330
Johnston, C. E.
89-002057
Johnston, Richard S.
89-003075
Jolankai, G.
89-001303
Jolly, George
89-002024
Jonard, L.
89-001360
Jones, E.
89-001353
Jones, G. P.
89-002151
Jones, K. A.
89-002152
Jones, Peter A.
89-003179
Jones, R.
89-003076
Jones, Robert S.
89-001953
Jones, S. R.
89-001507
Jong, J. T. L.
89-002763
Jonsson, B.
89-001697
Jonsson, Bror
89-001441
Jorgensen, P. E. V.
89-002358
Jory, Darryl Edward
89-003077
Joseph, Daven C.
89-003103
Joseph, E. B.

Joss, J. M. P.
89-001579
Joyce, Timothy L.
89-001492
Juarez Romero, Lourdes
89-002572
Juda, Lawrence
89-003078
Julien-Flus, Michel
89-002735
Junger, H.
89-001546
Jungnitz, H.-A.
89-003156
Jurca, I.
89-003163
Just, John J.
89-001718
Jutilla, Eero
89-002696
Kaaria, J.
89-002121
Kaartvedt, S.
89-003023
Kaattari, S.
89-001378
Kaattari, S. L.
89-001739
Kabaya, Shoji
89-002696
Kabir, M.
89-001388
Kabuto, Hideaki
89-002372
Kadlac, T.
89-002470
Kadlec, Jaroslav
89-001479
Kah, O.
89-001784
Kajihara, T.
89-002014
Kalish, J.
89-003194
Kallman, K. D.
89-001703
Kalinin, V. V.
89-001891
89-001892
Kalinina, O. V.
89-001891
89-001892
Kamoun, Fathi
89-001708
Kane, Thomas R.
89-001463
Kaneko, Masaharu
89-002545
Kaneko, Toyoji
89-001846
Kangas, John W.
89-002835
Kano, Satoshi
89-001764

Kartavtsev, Yu. P.
89-001893
Kasokat, Thomas
89-002506
Kasprzak, Peter
89-002754
Katoh, Jjichi
89-001442
Katoh, M.
89-001547
Kats, Lee B.
89-002035
Katlner, S.
89-001457
Katz, Anne Harris
89-002635
Katz, Harvey M.
89-002635
Kaufmann, R. S.
89-002232
Kaushik, S. J.
89-001464
Kawabata, Toshiharu
89-001468
Kawai, Kenji
89-002317
89-002327
Kawanura, Muneo
89-001880
Kawatsu, Hiroshi
89-001709
Kawauchi, Hiroshi
89-001645
89-001790
89-001855
Kawecki, Tadeusz J.
89-001963
Keegan-Rogers, Valerie
89-001894
Keller, W.
89-002423
89-002900
Kellermann, A.
89-002658
Kelley, C. D.
89-001831
Kelley, Christopher D.
89-002149
Kelly J., Rolando
89-001505
Kelly, Kevin H.
89-002115
Kelso, John R. M.
89-002440
Kelso, William E.
89-002589
Kemp, A.
89-001939
Kenchington, William
89-001548
Kendall, Robert L.
89-002266
Kenigset, Natacha B.
89-001566

89-001306
 Keperyes, Janos
 89-001307
 Kerambrun, Pierre
 89-001895
 Kerby, J. Howard
 89-002076
 Kerfoot, W. Charles
 89-001964
 89-001965
 89-002755
 89-002770
 89-002794
 Kermarrec, J.-Y.
 89-002090
 Kerr, S. R.
 89-003079
 Ketola, H. George
 89-001710
 Kevern, N. R.
 89-002389
 Kmalanski, Michel
 89-002441
 Khan, R. A.
 89-002353
 Khora, Samanta S.
 89-001549
 89-003157
 Kihara, Kohei
 89-002153
 Kikuchi, Takeaki
 89-001808
 89-001809
 89-001810
 89-001811
 Kikuyama, Sakae
 89-001645
 Killgore, K. J.
 89-002642
 89-002918
 89-002934
 Killgore, K. Jack
 89-003183
 Kim, Swan
 89-002055
 89-002059
 Kimura, Daniel K.
 89-002756
 Kimura, Takahisa
 89-002337
 89-002370
 Kincaid, Harold L.
 89-001375
 King, Lauriston R.
 89-003080
 King, P. E.
 89-002478
 King, R. H.
 89-002934
 King, Robert E.
 89-001282
 Kira, Tatuo
 89-002806
 Kirklev, James F.
 89-001306
 Kitchell, James F.
 89-001966
 Kite, Geoff
 89-003180
 Kjesbu, O. S.
 89-002116
 Klapsis, A.
 89-001308
 Klar, Gerald T.
 89-001408
 Klawe, Witold
 89-002265
 Klemetson, Stanley
 89-001309
 Klemetson, Stanley L.
 89-001310
 Klesius, P.
 89-002324
 Kling, Hedy J.
 89-002836
 Klumpp, D.
 89-001793
 Klumpp, D. W.
 89-002154
 Knapp, Leslie W.
 89-002267
 89-002268
 Knecht, R. W.
 89-003082
 Kneschke, Helmut
 89-002681
 Knezovich, John P.
 89-002507
 Knights, B.
 89-001409
 89-001410
 Ko Hongwen
 89-002371
 Kobayashi, A.
 89-001376
 Kobayashi, Hiroshi
 89-002701
 Kobayashi, Kazuhiro
 89-002374
 Kobayashi, Makito
 89-001711
 89-001825
 Kobayashi, Masanori
 89-002374
 Kobayashi, Michiharu
 89-002365
 Kocher, T. D.
 89-001902
 Kodric-Brown, Astrid
 89-001967
 Koester, S. K.
 89-003038
 Kohler, C. C.
 89-001411
 Kohler, Christopher C.
 89-002490
 89-002562
 Kohler, Nancy E.
 89-002355

Koops, P. B. J.
 89-002632
 Koops, H.
 89-001311
 Kopke, Ute
 89-002156
 Koppelman, Jeffrey B.
 89-002597
 Korschgen, Carl E.
 89-001268
 Korver, R. M.
 89-001969
 Korwin-Kossakowski, M.
 89-001812
 Korycka, Anna
 89-002837
 Koschel, Rainer
 89-002754
 Kosco, Jan
 89-002182
 Koski, K. V.
 89-003015
 Koskiniemi, J.
 89-002673
 Kossatz, Kathrin
 89-002681
 Kotrschal, K.
 89-001546
 Kotrschal, Kurt
 89-001550
 89-003083
 Kottelat, Maurice
 89-002269
 Kou, Guang-Hsiung
 89-002330
 Kovacs, Gy.
 89-001312
 Kovari, J.
 89-001313
 89-001314
 89-001315
 89-001316
 Koyama, Hiromitsu
 89-002331
 Koyama, T.
 89-001706
 Kozlova, I. V.
 89-002807
 Kraemer, George P.
 89-001298
 Kramer, D. E.
 89-002270
 Kramer, H. A.
 89-001502
 Kratt, L. F.
 89-002636
 Kravanja, M.
 89-002609
 Kriebel, Richard M.
 89-001633
 Krise, William F.
 89-001493
 Krishnan, Nirupa
 89-001465

89-002355
 Kubota, Saburoh S.
 89-002315
 Kucera, P. A.
 89-002919
 Kuehl, D. W.
 89-002508
 Kuhajda, Bernard R.
 89-002099
 Kuhlmann, D.
 89-001457
 Kuhlmann, H.
 89-001311
 Kuiter, R. H.
 89-002258
 Kullander, Sven O.
 89-002271
 Kullman, D.
 89-001655
 Kurar, Surendar
 89-002442
 Kumar, Vinod
 89-002509
 Kumarasiri, W. S. A. A. L.
 89-001317
 Kumazawa, Takeshi
 89-001713
 Kuo, Ching-Ming
 89-001714
 Kuroki, Hernan Baeza
 89-002396
 Kusher, David Irwin
 89-002510
 Kusuda, Riichi
 89-002317
 89-002319
 89-002320
 89-002327
 Kuwamura, Tetsuo
 89-001970
 Kwak, Thomas J.
 89-002920
 Kynard, Boyd
 89-002112
 89-002132
 Kynard, Boyd E.
 89-002683
 L'Abbe-Lund, J. H.
 89-001551
 LaBaugh, James W.
 89-001512
 Laborel, J.
 89-003037
 Lafeber, Floris P. J. G.
 89-001698
 LaFleur, G. J., Jr.
 89-001715
 Lafosse, B.
 89-002687
 Lagardere, J. P.
 89-001823
 89-001971
 Lahlou, Abdelhadi
 89-003000

Lambert, J. G. D.
89-001587
89-001603
Lambert, Thomas R.
89-002922
Lammens, Eddy H. R. R.
89-002808
Lampert, Winfried
89-001503
Lamy, G.
89-001865
Landner, Lars
89-002511
Lane, D. J. W.
89-001555
Lane, Hugo C.
89-001717
Lange, Gary M.
89-002512
Langhorst, Daniel R.
89-002060
Lanna, A. E.
89-002961
89-002962
Lanneau, J.
89-002687
Lanteligne, J.
89-002213
LaPlace, Joseph
89-003171
Lapointe, A.
89-002809
Larivier, M.
89-002718
89-002781
Laronne, Jonathan B.
89-003001
Larosa, G.
89-002431
Larriee, Denis H.
89-001453
Larsen, Roald
89-002844
Larson, B. E.
89-002313
Larson, Douglas W.
89-002923
Larson, Helen K.
89-002263
Larson, Loren J.
89-002443
Larson, R. J.
89-002131
Larsson, A.
89-002513
Larsson, Jan
89-003177
Lashomb, R.
89-001710
Laslo, C.
89-003163
Lasserre, Gerard
89-002722
Last, J. M.
89-001070

89-001656
Laurs, R. Michael
89-001692
Lavoie, G.
89-001939
Layhavit, Ong-ard
89-002315
Lawrence, A. L.
89-002534
Lawrence, W. B.
89-002321
Lawton, Michael P.
89-002507
Lazarovici, P.
89-002669
Le Bail, Pierre-Yves
89-001397
Le Coz, Charles
89-001444
Leatherland, J. F.
89-001393
Leclercq, Didier I.
89-001413
Lee, C. S.
89-001290
Lee, C.-S.
89-001831
Lee, Cheng-Sheng
89-001318
Lee, J. C.
89-001287
Lee, Jen-Chyuan
89-001433
Lee, R.
89-001534
Lee, Virginia
89-003011
Leeds, Roger
89-001319
Leelapatra, W.
89-001330
Legault, John A.
89-002836
Legendre, V.
89-002872
Leger, Philippe
89-001320
Legere, D.
89-001534
Leggett, W. C.
89-002178
Legorburu, I.
89-002514
Leibel, W. S.
89-001768
Leider, Steven A.
89-002637
Leiro, J.
89-002399
Leitch, Jay A.
89-002578
Leith, D.
89-001378
Leikes, Gabon

Lepitz, L. G.
 89-003084
 Lepot, D.
 89-002312
 Lepot, Daniel
 89-002420
 Leurq, F. C.
 89-001719
 Leung, PingSun
 89-002758
 Levanduski, M. J.
 89-001720
 Levanon, Dan
 89-001435
 89-001461
 89-001648
 Leventer, H.
 89-001407
 Levin, Luis E.
 89-001973
 Levine, G.
 89-001366
 Levine, S. H.
 89-002811
 Levine, Stephen H.
 89-002759
 Lewis, D.
 89-002328
 Lewis, D. L.
 89-002925
 Lewis, Frank G.
 89-001516
 Lewis, Richard J.
 89-001721
 Lewis, Urban J.
 89-001855
 Lewis, W. M.
 89-001331
 Lewis, William M.
 89-001497
 Lewis, William M., Jr.
 89-001519
 Lewy, Peter
 89-002760
 Li K.
 89-001920
 Li Xiuzhen
 89-002371
 Li Y.
 89-001920
 Li, Hiram W.
 89-002587
 Li, Xingfu
 89-001722
 Liaaen-Jensen, Synnove
 89-001801
 Liao, I. C.
 89-001887
 Libby, David A.
 89-002126
 Libbey, George S.
 89-001326
 Libosvsky, Jiri
 89-001523
 89-002926
 89-002927
 Lilley, Marvin D.
 89-001517
 Lin, A. L. L.
 89-001723
 Lim, C.
 89-001785
 Lin, M. T.
 89-002921
 Limbeck, Robert L.
 89-002861
 Lin Binwen
 89-002928
 Lin, Hao-Ren
 89-001333
 Lin, Richard J.
 89-001724
 Lin, Y.-W. P.
 89-001725
 89-001777
 Lin, Yu-Wai Peter
 89-001778
 Lindbeck, Eric
 89-001567
 Linden, Olof
 89-002638
 Lindstrom, Lennart
 89-002638
 Lindquist, David G.
 89-003097
 Lindqvist, O. V.
 89-001749
 Lindstrom-Seppa, P.
 89-002515
 Linfoot, B. T.
 89-001386
 Lipke, D. W.
 89-001655
 Lipton, Douglas W.
 89-003085
 Little, D.
 89-001414
 Liu Wensheng
 89-001426
 Ljungberg, Olle
 89-002334
 Lloris, D.
 89-002275
 Lloris, Domingo
 89-002214
 Llovo, J.
 89-001663
 Loadman, H. L.
 89-001744
 Lobel, Phillip S.
 89-002118
 Loba, A. F.
 89-001843
 Lobon-Cervia, J.
 89-002199
 Locci Hernandez, Ana Beatriz
 89-002761
 Lodge, David M.

89-001862
 Long, Jiri
 89-002341
 Lombardi, I.
 89-001553
 Londraville, R. L.
 89-001727
 Long Yuqian
 89-002928
 Long, B. A.
 89-002624
 Long, J. H., Jr.
 89-001554
 Longabucco, Patricia
 89-002415
 Longacre, D.
 89-001710
 Losnis, D. K.
 89-002567
 Loomis, John B.
 89-002639
 Lopes, R. A.
 89-002349
 89-002355
 Lopez-Lemus, Luis Gerardo
 89-001886
 Lopez, Idemaro
 89-001781
 Lord, D. A.
 89-002491
 Lorz, H.
 89-001361
 89-001362
 Lotsch, Gabriele
 89-003158
 Lough, R. Gregory
 89-001525
 Louis, M.
 89-003037
 Louis, M. J.
 89-001912
 Louis, Max
 89-001394
 Louw, Elizabeth
 89-001981
 Lovejoy, D. A.
 89-001728
 Lovell, Tom
 89-001729
 Lovshin, L. L.
 89-001415
 Lov, R. A.
 89-003086
 89-003087
 Lov, W. P.
 89-001555
 Lowell, William R.
 89-001692
 Lowery, D. R.
 89-002494
 89-002495
 89-002814
 89-003002
 Lowery, Mary Sue
 89-003014
 Ludicello, S.
 89-002516
 Ludwig, D.
 89-002762
 Ludwig, Richard L.
 89-002640
 Luecke, Chris
 89-002157
 Lukens, R.
 89-002710
 Lukowicz, M. V.
 89-001416
 Luquet, J. F.
 89-002687
 Luquet, P.
 89-001464
 Lyczkowski-Shultz, J.
 89-002062
 Lyles, A. M.
 89-002306
 Lynch, Michael
 89-001965
 Lynde, C. Macgill
 89-002055
 Lythgoe, J. N.
 89-001732
 MacCall, Alec D.
 89-002236
 89-002773
 89-003120
 MacCrimmon, H. R.
 89-001556
 MacCrimmon, Hugh R.
 89-002063
 MacDonald, N. L.
 89-001687
 Macdonald, S. Ellen
 89-001897
 MacGregor, R. B.
 89-001556
 Machado, J. P.
 89-002389
 MacIorowski, Anthony F.
 89-001445
 Mackay, Donald
 89-002499
 MacKenzie, D. S.
 89-001733
 Mackey, H. E.
 89-002444
 Mackiernan, G. B.
 89-003013
 MacKinnon, Malcolm R.
 89-001471
 MacLennan, D. N.
 89-002707
 89-003090
 MacNeill, J. L.
 89-003044
 Macpherson, Enrique
 89-002102
 Macy, T. L.

Mahon, Robin
 89-003003
 Maingot, Jacqueline
 89-002735
 Maisse, G.
 89-002031
 89-002845
 Majkowski, J.
 89-002658
 89-003194
 Majoros, F.
 89-001321
 Majumdar, K. C.
 89-001900
 Majumdar, Trilok Chandra
 89-002579
 Makodow, A. H.
 89-001877
 Makos, Bruce K.
 89-001734
 Malcolm, J.
 89-002941
 Malmquist, H. J.
 89-002386
 Maltezos, George
 89-002664
 Manam, Rao
 89-002810
 Manelphe, J.
 89-001417
 Manzoor Ali, P. K. M.
 89-001494
 Marahudin, F.
 89-003029
 Maraldo, David C.
 89-002063
 Marcel, Jacqueline
 89-001355
 March, B. E.
 89-001674
 Marchant, Tracy A.
 89-001735
 Marcille, J. M.
 89-003091
 Marcogliese, David James
 89-002390
 Marconato, A.
 89-001974
 Marcus, Laurel
 89-002641
 Marcus, Michael D.
 89-002815
 Marion, Jean Phillippe
 89-002103
 Mark, W.
 89-002158
 Marking, L. L.
 89-002482
 89-002483
 89-002665
 Markiw, Maria E.
 89-002350
 Marnell, Leo F.
 89-001322

Martin, C. Wayne
 89-002931
 Martin, J. L.
 89-002627
 Martin, K. L. M.
 89-001737
 Martin, Larry R.
 89-002003
 Martin, M.
 89-001667
 89-002547
 Martin, R. E.
 89-002997
 Martin, S. W.
 89-002299
 Martin, Seamus
 89-001878
 Martinez, Anita M.
 89-002276
 Martinez, Patrick J.
 89-002582
 Martini, F.
 89-001557
 Marttila, O. N. T.
 89-001738
 Marty, A.
 89-002857
 Marty, C.
 89-001975
 89-002848
 Marty, Gary D.
 89-002674
 Marut, C. J.
 89-002583
 Masoero, Loretta
 89-001531
 Masoni, A.
 89-001760
 Matallanas, Jesus
 89-002215
 Matherne, Anne M.
 89-002932
 Mathews, K.
 89-001929
 Mathews, Raymond C., Jr.
 89-002975
 Mathias, J. A.
 89-001744
 Mathur, A. K.
 89-002500
 Matlock, Gary C.
 89-002104
 89-003124
 Matsui, Takashi
 89-001856
 Matsuura, Mamoru
 89-002326
 Matthews, K. R.
 89-001976
 Matthiessen, Peter
 89-002517
 Matraw, H. C.
 89-002895
 Mattson, Mark D.

89-001899
 Mayama, H.
 89-001977
 Mayden, Richard L.
 89-001899
 89-002216
 Mayer, Foster L., Jr.
 89-002518
 Mayer, I.
 89-001586
 Mayes, M. A.
 89-002519
 Mazeroll, A. I.
 89-001978
 McAda, Charles W.
 89-002217
 McAllister, P. E.
 89-001495
 McAndrew, B. J.
 89-001900
 89-003185
 McCain, Bruce B.
 89-002505
 McCarty, Cecil E.
 89-001445
 89-001446
 McCarty, G.
 89-002534
 McCleave, J. D.
 89-002763
 McCleave, James D.
 89-002019
 McCraren, Joseph P.
 89-001447
 McCreery, T. P.
 89-001673
 McCuen, Richard H.
 89-002935
 McCutcheon, S.
 89-002678
 McDonald, D. G.
 89-001832
 McDowall, Robert M.
 89-001979
 McDowell, T.
 89-002360
 McFall-Ngai, Margaret
 89-001740
 McFarland, Mel A.
 89-001513
 McGaw, Richard L.
 89-003050
 McGeachy, S. M.
 89-002520
 McGinty, Andrew S.
 89-001418
 McIntyre, A. D.
 89-003092
 McIntyre, John D.
 89-001387
 89-002159
 89-002764
 McKaye, K. R.
 89-002119
 McMurtry, Lynn A.
 89-001298
 McMurtry, M. J.
 89-002800
 McMurtry, Michael J.
 89-002446
 McNatt, Randy M.
 89-002065
 89-002766
 McQueen, Donald J.
 89-002794
 McSweeney, Edward S.
 89-001323
 Meager, Debra A.
 89-002487
 Means, D. Bruce
 89-002615
 Mearns, K. J.
 89-001466
 Medeiros, P.
 89-002726
 Medland, T. E.
 89-001596
 Medley, Paul
 89-002699
 Mee, Laurence D.
 89-001514
 Meffe, Gary K.
 89-001901
 89-002066
 89-002767
 89-002933
 Meier, W.
 89-002364
 Melack, John M.
 89-002812
 Melhaoui, M.
 89-002031
 Mellquist, Pal
 89-002453
 Melo, Yolande
 89-002024
 Meltzer, A.
 89-001646
 Meltzer, Aharon
 89-001435
 Melville-Smith, R.
 89-001981
 Menge, Bruce
 89-002812
 Mensinger, A. F.
 89-001741
 Mergo, John Carl, Jr.
 89-002391
 Meritt, Donald W.
 89-001405
 Merrett, N. R.
 89-001558
 Merrett, Nigel
 89-003093
 Mesick, Carl F.
 89-001982
 Mester, Lotus

Meyer, R.
89-001902
Meyer, Carol
89-002460
Meyer, D. I.
89-001324
Meyer, Judy L.
89-002769
Michoud, M.
89-002793
Midcaugh, D. P.
89-001325
Midorf Hiramatsu
89-002372
Mikkola, Heimo
89-002584
Milhaud, G.
89-001677
Millan, E.
89-002514
Millar, John B.
89-001267
Miller, A. C.
89-002642
89-002934
Miller, Daniel J.
89-002816
Miller, David L.
89-001903
Miller, Edwin
89-002643
Miller, Gary E.
89-001326
Miller, M.
89-001870
Miller, Michael R.
89-001653
Miller, Morton M.
89-002558
Miller, Robert Rush
89-002585
Miller, Thomas E.
89-002770
Miller, Wallace D.
89-001405
Miller, William E.
89-002476
Mills, Christopher P. R.
89-001724
Mills, D. H.
89-003094
Mills, Edward L.
89-001983
89-002794
89-002617
Mills, Kenneth H.
89-002448
Milone, Peter A.
89-003069
Milstein, A.
89-001407
Mittal, A. K.
89-002527
Mittelbach, Gary G.

89-002322
Moglen, Glenn E.
89-002935
Mohus, I.
89-003181
Mokady, S.
89-001472
Moksness, Erlend
89-002160
Mola, L.
89-002481
Mollins, Marek
89-002075
Moller, H.
89-003095
Molles, Manuel C., Jr.
89-002936
Molloy, Daniel P.
89-003182
Molnar, J.
89-001629
Molnar, K.
89-002352
Morrison, Thomas P.
89-001782
89-001783
Morakow, Andrej V.
89-002866
Monod, Gilles
89-001638
Montana Department of Fish, Wildlife,
Parks
89-002937
Montgomery, W. L.
89-001978
Moodie, G. E. E.
89-001744
Moel, W. H.
89-002277
Moon, T. W.
89-001675
89-001676
Moons, L.
89-001745
Moore, A.
89-002067
Moore, Janice
89-002392
Moore, L.
89-002818
Moore, Lori Garck
89-001327
Moore, Virgil K.
89-002091
Moran, Emilio F.
89-002938
Moran, M. J.
89-003175
Moran, R.
89-003102
Moreau, J.
89-002163
Morgan, R. I. G.
89-001697
89-002011

89-002939
Marin, Pierre-Philippe
89-001746
89-001747
Maring, John R.
89-001359
89-002586
Morita, H.
89-003175
Mork, Jarle
89-002354
Morris, B. F.
89-003096
Morris, Donald P.
89-001519
Morris, G.
89-002658
Morris, S.
89-001774
Morrison, J. K.
89-002318
Morrison, John K.
89-001380
Morrow, J. C.
89-001490
Morrow, Jacob C.
89-003178
Morse, Daniel E.
89-001448
Mortensen, Donald G.
89-002393
Moser, H. Geoffrey
89-002779
Mothershead, Parry D.
89-002393
Motta, Philip J.
89-002149
Moukhtar, M. S.
89-001677
Moulton, Lawrence L.
89-002105
89-002746
Moyle, Peter B.
89-002587
Mudana, Wayan
89-001354
Mueller, C. S.
89-002522
Muench, Kevin A.
89-001328
Muench, R. D.
89-001504
Mugiya, Yasuo
89-001748
Muje, P.
89-001749
Mukherjee, Dilip
89-002509
Mukundan, M. K.
89-001750
Muller, F.
89-001329
Muller, M.
89-002736

89-001663
Munro, A. L. S.
89-001381
Munro, Peter T.
89-002023
Munteanu, Monica
89-001629
Murad, A.
89-001752
Murai, Takeshi
89-002372
Muraoka, Aichiro
89-002320
Murdock, William W.
89-001987
Murkin, Henry R.
89-002588
Murphy, Brian R.
89-002589
Murphy, Michael D.
89-002570
Murphy, Michael J.
89-001491
Murphy, Michael L.
89-003015
Murphy, Pat
89-002265
Murray, James D.
89-003097
89-003155
89-003159
Murray, K. R.
89-001386
Murray, S. N.
89-001957
Mushashi, Tatuya
89-002545
Muske, G. A.
89-001896
Mwalyosi, Raphael B. B.
89-002644
Myers, Carl F.
89-002449
Myers, Norman
89-002645
Myllyvirta, Tero P.
89-002523
Naama, A. K.
89-002068
Nacario, Jonathan
89-001584
Naesje, T. F.
89-001559
Naesje, Tor F.
89-002827
Nagahama, Y.
89-001544
Nagahama, Yoshitaka
89-001756
Nagai, Katsuyuki
89-001810
Nagai, T.
89-001496

Nakagawa, Hisaki
 89-001753
 89-002524
 89-002525
 89-002526
 Nakagawa, T.
 89-001754
 Nakagawa, Takayuki
 89-001755
 Nakamura, M.
 89-001544
 Nakamura, Masaru
 89-001756
 Nakamura, Moritaka
 89-001856
 Nakamura, Munetomo
 89-001757
 89-001758
 Nakamura, Osamu
 89-001825
 Nakamura, R. M.
 89-002702
 Nakano, Hiroshi
 89-002083
 Nakari, Tarja
 89-001759
 Nakata, Kaoru
 89-002083
 Nakayama, Teruo
 89-001764
 Nance, J. M.
 89-001760
 Nash, Richard D. M.
 89-003184
 Nashimoto, Katsuaki
 89-002695
 Nasir, N. A.
 89-002068
 Nath, P.
 89-001591
 Natili, G. L.
 89-001915
 National Marine Fisheries Service
 89-002590
 89-003098
 National Research Council
 89-002819
 Navarro, J. C.
 89-001449
 Navratil, P. M.
 89-003099
 Naylor, E.
 89-003186
 Neely, Robert K.
 89-002450
 Nehlsen, W.
 89-003013
 Neill, W. H.
 89-002534
 Neill, William E.
 89-002830
 Neill, William H.
 89-002771
 Nelson, D. A.

Ney, John J.
 89-002591
 Ng, M. K.
 89-002351
 Ngamvongchana, S.
 89-001330
 Ngoh, G. H.
 89-002361
 Nichols, Donald J.
 89-001761
 Nichols, Frederic H.
 89-003100
 Nickson, Hugh C.
 89-001780
 Nickum, John G.
 89-001395
 Nieland, David L.
 89-003101
 Nielsen, Jan
 89-002675
 Nielsen, Jennifer L.
 89-002682
 Nielsen, Larry A.
 89-002977
 Nielson, Bryce R.
 89-001370
 89-002592
 Niemi, Asko
 89-002039
 Niemi, Gerald J.
 89-002485
 Nigrelli, Ross F.
 89-002381
 Nigro, A. A.
 89-002000
 89-002991
 Nihouarn, A.
 89-002090
 89-002845
 Nikinmaa, Mikko
 89-001738
 Nikunen, E.
 89-002543
 Nilsen, Baard
 89-001389
 Nilsson, Christer
 89-002646
 Nilsson, Goran E.
 89-001762
 Nilsson, S.
 89-001618
 Nilsson, Stefan
 89-001589
 Ninomiya, Manabu
 89-002320
 Nishida, M.
 89-001547
 Nishide, Eiichi
 89-002545
 Nishikawa, Y.
 89-001863
 Nishioka, Richard S.
 89-001724
 89-001858

89-002941
 Nixon, D.
 89-003102
 Nixon, Dennis
 89-003103
 Knajf, S.
 89-003016
 Noble, Richard L.
 89-002069
 Kobuta, K.
 89-001863
 Hattie, D. B.
 89-001988
 Korabela, M. A.
 89-003019
 Monaka, Michio
 89-001797
 89-003161
 Moroda, Tokuro
 89-002701
 Nordell, S. E.
 89-001989
 North, E.
 89-002942
 Northcote, T. G.
 89-002716
 Northcutt, R. Glenn
 89-001562
 Norton, David W.
 89-003104
 Norton, J. A.
 89-002676
 Norton, S. F.
 89-001990
 Norway Central Bureau of Statistics
 89-002307
 Nouch, M.
 89-002943
 89-002944
 Novacek, Jean M.
 89-002593
 Novotny, J. F.
 89-001382
 Nurez, Oliva
 89-002340
 Nuti-Sobrinho, A.
 89-002349
 89-002355
 Nyberg, Per
 89-002451
 Nyholmen, O.
 89-002106
 Nyman, Robert M.
 89-001765
 O'Bannon, B. K.
 89-002594
 O'Brien, Julian J.
 89-001471
 O'Brien, W. John
 89-001991
 O'Connell, V. M.
 89-002270
 O'Farrell, M. M.
 89-001766
 O'Neil, R. V.
 89-002788
 Obando, Vilma L.
 89-001518
 Odawara, Fumitomo
 89-001748
 Odening, K.
 89-002308
 Olmart, Robert D.
 89-002945
 Ohnishi, Shin
 89-001628
 Oiestad, Victor
 89-002160
 Oishi, Kefichi
 89-003160
 Ojeda C., Vilma
 89-002174
 Ojha, J.
 89-002527
 Ojutkangas, Esa
 89-002039
 Oka, Shigem
 89-003160
 Okamoto, Nobuaki
 89-002365
 Okeru, W.
 89-003105
 Okubo, Motohiro
 89-003148
 Olesen, N. J.
 89-002358
 Olie, Kees
 89-002427
 Olin, T.
 89-001767
 Olive, L. J.
 89-002946
 Oliver, Mark L.
 89-002595
 Olivry, J. Claude
 89-002947
 Olla, B.
 89-002142
 Olla, B. L.
 89-002001
 Olla, Bort L.
 89-001992
 Ollevier, F.
 89-001745
 89-002376
 Olofsson, H.
 89-002820
 Ologhobo, Anthony D.
 89-001460
 Olson, B. H.
 89-002439
 Olson, K. R.
 89-001655
 Olson, Steven G.
 89-003080
 Olson, T.
 89-001371

Osaka, Yoshiki
 89-001764
 Oshima, Kevin
 89-002072
 Oshima, Yasukatsu
 89-001758
 Osinov, A. G.
 89-001904
 Osse, J. W. M.
 89-002736
 Ostrowski, Anthony C
 89-001769
 Ottolenghi, Celestina
 89-001782
 Otubusin, Samuel Olu.
 89-001420
 Ouellet, G.
 89-003169
 Oxenford, Hazel A.
 89-002659
 Ozaki, Hirokida
 89-001797
 89-003161
 Paba, A.
 89-001464
 Pace, M.
 89-002824
 Pace, Richard Mears III
 89-002677
 Pacific Fishery Management Council
 89-003106
 89-003107
 Pack, A. I.
 89-001671
 Packard, F. A.
 89-002452
 Paerl, H.
 89-002824
 Paine, Robert T.
 89-003048
 Painter, Charles W.
 89-002098
 Pak, I. V.
 89-001905
 Palicka, Jiri
 89-001481
 89-001482
 Palko, Barbara Jayne
 89-003042
 89-003108
 89-003144
 89-003145
 Paller, M. H.
 89-001331
 89-002948
 Paller, Michael H.
 89-001497
 Palmer, D. E.
 89-001995
 Palmer, Joan E.
 89-003109
 Palomares, Ma. Lourdes D.
 89-002163
 Papoulas, Diana
 89-001332
 89-002070
 Paragarian, Vaughn L.
 89-001906
 Parenti, L. R.
 89-001560
 Park, D. L.
 89-002678
 Parker, D. B.
 89-001770
 Parker, Heidi S.
 89-002503
 Parker, Kenneth S.
 89-002071
 Parker, Nick C.
 89-001468
 89-002596
 Parker, Randolph S.
 89-002949
 Parker, S. J.
 89-001771
 Paron, Lidia
 89-001669
 Parrish, B. B.
 89-003030
 Paruchin, A. M.
 89-002162
 Parvopassu, F.
 89-001520
 Pasanen, P.
 89-002673
 Pasca, I.
 89-001629
 Pasch, R. W.
 89-002237
 89-002719
 Paterson, W.
 89-002342
 Patel, G. P.
 89-002728
 Patino, R.
 89-001772
 Patino, Reynaldo
 89-001773
 Paul, A. J.
 89-001814
 Paul, J. M.
 89-001814
 Pauley, G. B.
 89-001869
 Pauley, Gilbert B.
 89-002026
 89-002072
 Paulin, C. D.
 89-002278
 Pauly, D.
 89-002163
 Pavela, John S.
 89-002475
 Pawaputanon, O.
 89-001330
 Payne, B. S.
 89-002642

89-002218
Pedretti, John W.
89-002219
89-002220
89-002293
Peirce, R. E.
89-001766
Pelletier, G.
89-001784
Pelster, R.
89-001774
89-001775
Penaz, Milan
89-002184
Penczak, Tadeusz
89-002075
Pentig, Jens
89-002156
Pennec, J. P.
89-001823
Pennec, Y.
89-002090
Penz, Eckhard
89-002681
Perigo, E.
89-002445
Perigreen, P. A.
89-003165
Perra, Paul
89-003111
Perrow, M. R.
89-002109
Persson, Gunnar
89-002821
Persson, Lennart
89-002822
89-002830
Pesonen, Sykko
89-001759
Peter, M. C. Subash
89-001776
Peter, R. E.
89-001290
Peter, Richard E.
89-001333
89-001735
89-001792
89-001815
Peterka, J. J.
89-002279
Peters, David S.
89-001704
Peters, N.
89-001561
Petersen, C. W.
89-001993
Petersen, Lena B.-M.
89-002528
Petersen, Robert C., Jr.
89-002528
Pethebridge, R.
89-003194
Petranka, James W.
89-002005

89-002891
Peyraud-Waitzenegger, Marguerite
89-001779
Pezzenenti, Leo
89-001780
Phelps, Ronald P.
89-001404
Phelps, S. R.
89-001908
Phetterplace, L.
89-001710
Philbrick, C.
89-003102
Phillipp, David P.
89-002597
Philippart, J. C.
89-002953
Phillips, Harold F.
89-001462
Phillips, N. W.
89-003112
89-003113
89-003114
Phipps, Barry Michael
89-002323
Pierre, Jacqueline
89-001566
Piironen, Jorma
89-002185
Pikitch, Ellen K.
89-002186
Pillard, David Alan
89-003006
Pinckney, Jay L.
89-002113
Pineda R., Pedro
89-003170
Pinhorn, A. T.
89-003115
Piper, Robert G.
89-001380
Pister, Edwin P.
89-002598
Pitcher, T. J.
89-001994
89-003052
Pityer, R. A.
89-001685
Planquette, Paul
89-001397
Plante, R.
89-002044
Plaza-Yglesias, Margarita
89-001781
Plisetskaya, E. M.
89-001806
Plisetskaya, Erika M.
89-001782
89-001783
Plumb, J. A.
89-002324
89-002351
Podesta, Guillermo Pablo
89-003116

89-001910
 Pontet, A.
 89-001784
 Posen, Gary C. B.
 89-001753
 Popp, Walter A.
 89-001633
 Por, L. B.
 89-001648
 Porcella, D. B.
 89-001823
 Porcella, Donald B.
 89-001555
 Porch, Clarence Edward III
 89-002599
 Porcher, J. P.
 89-002845
 Porter, C. B.
 89-001443
 Porter, K. G.
 89-001874
 Porter, Karen G.
 89-002832
 Portier-Nichelle, J.
 89-001716
 Poss, Stuart G.
 89-002780
 Post, George
 89-001681
 Poston, Hugh A.
 89-001384
 89-001785
 Potter, Brian A.
 89-001385
 Potters, Gerald B.
 89-001076
 Potts, W. F. W.
 89-001829
 89-001830
 Potvin, P.
 89-002954
 Pothin, R.
 89-002077
 Powell, George V. N.
 89-002007
 89-002008
 Powell, B. J.
 89-002800
 Power, G.
 89-002850
 Power, M. J.
 89-002134
 Power, Mary L.
 89-001936
 Powers, Joseph L.
 89-003117
 Poxton, M. G.
 89-001486
 89-001450
 Prager, Michael H.
 89-002236
 89-002773
 Preiss, A.
 89-002011
 Prevost, E.
 89-002661
 Price, K. S.
 89-002660
 Prieds, I. G.
 89-002670
 Prijoza, A.
 89-001786
 Primmett, D. R. N.
 89-001830
 Primer, N.
 89-002669
 Pringle, E. A.
 89-002469
 Priscu, J.
 89-002824
 Pritchard, P. H.
 89-002546
 Prochaska, Fred J.
 89-003055
 Proctor, M. V.
 89-001510
 Prokes, Miroslav
 89-002184
 Propst, David L.
 89-001928
 89-001998
 89-002998
 89-002221
 Protic, Miroslava
 89-002529
 Proutet, P.
 89-002845
 Pruder, Gary D.
 89-001334
 Prunkl, Veijo
 89-002686
 Pardon, James R.
 89-002281
 Pusey, B. J.
 89-001787
 Pustelnik, G.
 89-002956
 Pustovoit, S. P.
 89-001877
 Putera, J.
 89-002840
 Puzdrowski, Richard L.
 89-001562
 Puzdrowski, Richard Leo
 89-001563
 Pyron, Mark
 89-002120
 Quadri, S. U.
 89-002213
 Quantz, G.
 89-001457
 Quigley, M. A.
 89-003168
 Quintilio, G. F.
 89-001788
 Quinn, Frank H.

Rabinowitz, J. L.
89-003073
89-001607
Rach, J. J.
89-001685
89-002483
Radhaiah, V.
89-002530
Radtke, Richard L.
89-001789
Radziej, Joachim
89-002837
Rafferty, Michael R.
89-002415
Rago, Paul J.
89-002473
Rai, S. C.
89-001564
Raitaniemi, Jari
89-002454
Rajasilta, M.
89-002121
Ram, Raj Narayan
89-002394
Rama Krishna, N. S.
89-001821
Rama Rao, Kaza V.
89-001549
89-003157
Ramana Rao, K. V.
89-002537
Ramanathan, A.
89-002974
Ramelow, G. J.
89-002522
Ramos, S. M.
89-001285
Rana, K. J.
89-003185
Rand-Weaver, Mariann
89-001790
Randall, David
89-001853
Randall, John E.
89-002282
Rangel Castelazo, Francisco
89-003118
Ranta-aho, K.
89-002121
Ranta, Eeva
89-002957
Rao, D.
89-001638
Rao, K. Jayantha
89-002530
Rasheed, Victoria
89-002325
Rask, Martti
89-002454
Rathbun, R. E.
89-002455
Rauch, Henry W.
89-002912
Rauchenberger, Mary
89-002232

89-002958
89-002975
Recht, L.
89-003119
Recknagel, Frieder
89-002754
Reda, E. S. A.
89-002309
Reddin, D. G.
89-002223
Reddy, S. Ravichandra
89-001465
Redford, David
89-002464
Ree, Karin C. M.
89-002427
Reed, M.
89-002456
Reed, Porter B., Jr.
89-001269
89-001270
89-001271
89-001272
89-001273
89-001274
89-001275
89-001276
89-001277
Reed, Rhonda J.
89-003120
Reeves, William C.
89-002606
Reichel, Susanne
89-002681
Reid, D. G.
89-003186
Reid, David M.
89-001897
Reidenauer, Jeffrey A.
89-002615
Reimchen, T. E.
89-001565
Reisenbichler, R. R.
89-001908
Reisenbichler, Reginald R.
89-001387
89-002159
89-002764
Reish, D. J.
89-002457
Reniere, Audrey K.
89-003071
Renno, J. F.
89-001865
Renton, John J.
89-002912
Reperant, Jacques
89-001566
Rexrode, M.
89-002531
Reynolds, James B.
89-001930
Reynolds, W. R.
89-001422

Richardson, Kim
 89-003151
 Richkus, William A.
 89-002107
 89-003129
 Richman, L. A.
 89-002423
 Richards, C.
 89-002532
 Richter, C. J. J.
 89-001840
 Rider, Larry L.
 89-002595
 Ridgway, Mark S.
 89-001999
 Ridler, M. B.
 89-001388
 Riegel, J. A.
 89-001791
 Rieger, W. A.
 89-002946
 Riely, Patricia Lavin
 89-002601
 Riemann, B. E.
 89-002000
 89-002991
 Riemann, B.
 89-002824
 Riley, A. I.
 89-003195
 Rimmer, D. M.
 89-002867
 Ringler, Neil H.
 89-001959
 Rinjo, Einar
 89-001389
 Rinne, John N.
 89-001335
 89-002602
 Rio, Jean-Paul
 89-001566
 Riviere, Jean Louis
 89-002420
 Riviere, Jean-Louis
 89-001838
 Roberts, C. D.
 89-002122
 Roberts, Clive D.
 89-002284
 Roberts, Daniel E., Jr.
 89-001445
 89-001452
 Roberts, Morris H., Jr.
 89-002533
 Roberts, Wayne
 89-002079
 Robertson, J. H. B.
 89-002703
 89-002704
 Robertson, S. M.
 89-002534
 Robillard, Paul D.
 89-002415
 Robinson, Clifford L. K.
 89-001590
 Roethe, Frank J.
 89-002412
 Rogers, Gary L.
 89-001309
 89-001310
 Rogers, W. A.
 89-002351
 Roguet, M.
 89-002956
 Rokavec, J. S.
 89-002329
 Rojas-Beltan, R.
 89-002793
 Rollins, David
 89-002727
 Rolon, Miguel A.
 89-003046
 Romero, Aldemaro
 89-001973
 Romero, Raul Castro
 89-002396
 Rooj, K. C.
 89-002527
 Roots, Betty I.
 89-001624
 Rosa, Claudete Deguirment
 89-001590
 Rosa, Rubens
 89-001590
 Rosenberg, A. A.
 89-002724
 Rosenblatt, R. H.
 89-002290
 Rosenblum, Paul M.
 89-001792
 Rosenlund, Bruce D.
 89-001364
 89-002086
 Rosenthal, H.
 89-001793
 Ross, Quentin E.
 89-002738
 Ross, Steve W.
 89-002080
 89-002108
 Rosseland, Bjorn Olav
 89-002438
 89-002458
 Roubal, F. R.
 89-002397
 Rountree, Rodney Alan
 89-002705
 Rourke, A. W.
 89-001731
 Roux, A. L.
 89-002959
 Roux, M.
 89-002956
 Roy, Debashish
 89-002535
 89-002536
 Rubin, D. A.

89-002214
 Ruger, Alan W.
 89-001335
 Ruggerone, G. T.
 89-002167
 Ruggieri, George D.
 89-002381
 Ruiz Amil, M.
 89-001667
 Ruiz-Campos, Gorgonio
 89-002138
 89-002224
 89-002225
 Runn, Per
 85-002548
 Russell, Barry C.
 89-002285
 89-002286
 Russell, D. John
 89-001471
 Russell, Sandra J.
 89-003145
 Russi, Terry
 89-002603
 Rustidja
 89-001354
 Rutledge, C. Jerry
 89-001795
 Rutledge, William P.
 89-001446
 89-003124
 Ryan, Joseph D.
 89-001516
 Rycroft, Richard J.
 89-002517
 Ryder, R. A.
 89-003079
 Rydevik, M.
 89-001796
 Ryer, C. H.
 89-002001
 Sabljic, Aleksandar
 89-002529
 Sacchi, Jacques
 89-002706
 Saeki, Hiroki
 89-001797
 89-003161
 Safford, S. E.
 89-001798
 Saheki, Kazuaki
 89-001467
 89-001468
 Sahrhage, D.
 89-003125
 Saint-Gelais, Sylvain
 89-001453
 Sakai, D. K.
 89-002366
 Sakai, Masahiro
 89-002374
 Sakata, Taizo
 89-002326
 Salati, Fulvio
 89-002358
 Saltveit, Svein Jakob
 89-002926
 89-002927
 89-002960
 Sambasiva Rao, K. R. S.
 89-002537
 Sambasivam, S.
 89-003127
 Sambroni, Elisabeth
 89-001609
 89-001610
 Sami, Manahu
 89-002337
 89-002370
 Sampson, D. B.
 89-001819
 Sampson, David B.
 89-002775
 Samuelson, O. B.
 89-001336
 Sanchez-Gil, P.
 89-002087
 89-002088
 Sander, Robert D.
 89-002680
 Sanders, L. G.
 89-002238
 Sandgren, Craig D.
 89-002830
 Sandheinrich, Mark B.
 89-002538
 Sandifer, Paul A.
 89-001454
 Sandlund, Odd Terje
 89-002827
 Sandstrom, Helmut
 89-001508
 Sandstrom, Olof
 89-002539
 Sanford, C. P. J.
 89-001568
 Sanger, Alexandra
 89-001569
 Sanmartin Duran, M. L.
 89-002399
 Sano, Tokuo
 89-002365
 Sapozhnikov, G. I.
 89-002400
 Sapunar, J.
 89-002417
 Sarig, S.
 89-001337
 Sasaki, Takashi
 89-002025
 Satake, T.
 89-002349
 89-002355
 Sathyanesan, A. G.
 89-002394
 Sato, Kenji
 89-001799
 Sato, Mamoru
 89-002394

Saville, A.
89-003099
89-003128
Savoy, Thomas F.
89-002081
Savvaitova, K. A.
89-001570
Sawyer, T. K.
89-002347
Sayer, M. D. J.
89-001800
Sayre, Mark
89-003129
Scalet, Charles G.
89-002183
Scarnecchia, Dennis L.
89-003130
Scavia, D.
89-002824
Scavia, Donald
89-002828
Schaeperkoetter, Victor P.
89-002412
Scheide, J. T.
89-002002
Scheider, Wolfgang A.
89-002446
Schiedt, Katharina
89-001801
Schiewer, U.
89-002409
Schimmel, Steven C.
89-002464
Schindler, D. W.
89-002811
Schindler, J. F.
89-001818
Schleen, Larry P.
89-002486
Schmidt, David R.
89-002803
89-002630
Schmied, Ronald L.
89-003131
89-003132
Schneider, David C.
89-002776
Schneider, Hans
89-001543
Schneider, John F.
89-001695
Schneider, Mark J.
89-001802
Schoffeld, Carl L.
89-002747
Schoonen, W. G. E. J.
89-001603
Schram, Mark D.
89-002861
Schram, Thomas A.
89-002401
Schreck, C. B.
89-001361
89-001362

Schultz, Fern
89-002156
89-002691
89-003187
Schultz, R. Jack
89-001894
Schurdak, Mark E.
89-003183
Schwartz, K. B.
89-001415
Sciarrotta, Terry
89-002533
Scott, A.
89-002067
Scott, A. P.
89-001834
Scott, D.
89-002867
Scott, D. B. C.
89-001616
Scripcariu, Dragos
89-001742
Scully, R. J.
89-001805
Sebert, P.
89-001620
Secor, David H.
89-001571
Seehorn, Monte E.
89-002649
Seelbach, Paul W.
89-002688
Seim, Wayne K.
89-002487
Seinen, W.
89-002492
Selgeby, James H.
89-001377
Selman, K.
89-001777
Semenova, S. K.
89-001909
Semmelmann, F. R.
89-002961
89-002962
Seneviratne, Palitha
89-001317
Seno, Hiroshi
89-001713
Seraphy, J. E.
89-003189
Serns, Steven L.
89-001390
Servais, Pierre
89-002650
Setter, A.
89-001870
Seudile, Steve
89-001822
Sevola, Perotti
89-002957
Sevon, Mike
89-002082
Seymour, E. A.

Shaffer, Paul W.
 89-001515
 Shamsi, Mohammad J. K.
 89-002408
 Shard, Julia
 89-001732
 Shang, Y. C.
 89-001338
 Shang, Yung C.
 89-001339
 Sharpe-Fajardo, E.
 89-002328
 Sheahan, David A.
 89-002517
 Shearer, W. M.
 89-002737
 Shefler, D.
 89-002143
 Sheldon, Andrew L.
 89-002933
 Shelton, Peter
 89-002024
 Shelton, William L.
 89-002604
 Shenker, Jonathan M.
 89-003190
 Shenoy, A. V.
 89-003165
 Shepherd, J. G.
 89-002777
 Sheridan, H. A.
 89-001806
 Sheridan, Mark A.
 89-001782
 89-001783
 Sherman, Ruth E.
 89-002747
 Sherwood, N. M.
 89-001290
 89-001728
 Sherwood, Nancy M.
 89-001584
 89-001639
 89-001736
 89-001807
 Shiel, R. J.
 89-002963
 Shields, F. Douglas, Jr.
 89-002651
 Shinada, Allen M.
 89-002153
 Shimamura, Shigeru
 89-001467
 Shimizu, Hirofumi
 89-002083
 Shimizu, I.
 89-002287
 Shinma, H.
 89-001863
 Shimokawa, Yoichi
 89-002326
 Shiomi, Kazuo
 89-001808
 89-001809
 Short, Bruce E.
 89-002663
 Short, Cathleen
 89-002621
 Short, P. B.
 89-002223
 Shortle, James S.
 89-002474
 Shotts, Emmett B.
 89-002332
 Shpigel, Mukl
 89-002168
 Shrestha, T. K.
 89-002212
 Shubin, P. N.
 89-001910
 Shugart, L. R.
 89-002540
 Shultz, D. J.
 89-002455
 Shupliakov, Oleg V.
 89-001566
 Shurben, D. G.
 89-002544
 Siddens, Lisbeth K.
 89-002487
 Siddiqui, A. Q.
 89-001423
 Sidell, B. D.
 89-001640
 Siebers, H. H.
 89-002541
 Sigha, Nkandjou
 89-002947
 Sigler, Michael F.
 89-003133
 Sih, Andrew
 89-001964
 89-002004
 89-002005
 Sikkel, P. C.
 89-002006
 Silva, M.
 89-003082
 Simon, Raymond C.
 89-001911
 Simonet, F.
 89-002956
 Simonson, Timothy D.
 89-003191
 Simpson, David
 89-002664
 Simpson, K. L.
 89-001366
 Singh, A.
 89-002500
 Singh, R.
 89-002300
 Sinnige, T. L.
 89-002492
 Siqueira, H. A. J.
 89-002356
 Sirisena, H. K. G.

89-002460
Skinner, William D.
89-002843
Skladany, M.
89-001414
Skulberg, Olav M.
89-002964
Slauson, William L.
89-002778
Slaybaugh, Debra K.
89-003134
Sloan, Ronald
89-002460
Sloan, Ronald J.
89-003179
Sly, Peter G.
89-002123
Slyn'ko, V. I.
89-001909
Smit, H.
89-001839
Smith, Barry W.
89-002606
Smith, C. A. D.
89-001912
Smith, Charlie E.
89-002385
89-002402
Smith, Daniel Wilkins
89-001424
Smith, Gerald R.
89-002289
Smith, I. R.
89-001401
89-002403
Smith, J. S.
89-001813
Smith, John B.
89-002085
Smith, Michael W.
89-001930
Smith, P. J.
89-001913
Smith, Paul E.
89-002779
Smith, Peter C.
89-001508
Smith, Peter J.
89-001888
Smith, R. J. F.
89-001988
Smith, R. L.
89-001814
Smith, Ralph G., Jr.
89-001516
Smith, Robert Z.
89-001365
Smith, Susan E.
89-001932
Smith, Theodore I. J.
89-001454
Smith, W. W.
89-002999
Smiths, Paul W. J. M.

89-002308
Soiseth, C.
89-002875
Solivio, A.
89-002543
Solivio, Antti
89-001759
Sola, F.
89-001760
Sola, L.
89-001915
Solbe, J. F. de L. G.
89-002544
Solheim, E.
89-001336
Sotero, G. N.
89-001683
Somero, George N.
89-002477
Sotner, Ulrich
89-002794
Sotoza, Gustavo M.
89-001815
Song, J.
89-001816
Song, Yen-Ling
89-002329
89-002330
Sorensen, Anita
89-002305
Sorenson, Roger
89-001335
Sorgeloos, Patrick
89-001320
Sosnowska, Jozefa
89-002837
Sotelo Landa, Luis M.
89-001299
Sotolongo, M. C.
89-002093
Soudack, A. C.
89-002727
Soulter, Philippe
89-001779
Soumastre, J.
89-002956
Sourdaine, Pascal
89-001572
Souza, Lawrence M.
89-001803
Sowby, M. L.
89-001961
Sower, S. A.
89-001817
Spaulding, M.
89-002456
Specht, W. L.
89-002965
Specker, J. L.
89-001771
89-001794
Speckner, W.
89-001818
Spencer, Craig N.

Spillet, P. B.
89-001419
Spodilewska, Irena
89-002829
Spotte, Stephen
89-001428
Spotts, David E.
89-002843
Sprague, J. B.
89-001969
Springer, Victor G.
89-002226
Sprules, W. Gary
89-002830
Spry, Douglas J.
89-002462
Squire, James L.
89-002133
89-003135
89-003136
Squires, Dale E.
89-002757
St. Pierre, Richard A.
89-002689
St-Pierre, J.-F.
89-001684
Stanescu, V.
89-003163
Stanford, Jack A.
89-002966
89-002978
Stanley, C. A.
89-002679
Stansbury, D. E.
89-002223
Stansby, Maurice E.
89-003164
Stanton, Frank G.
89-002149
Stark, J. R.
89-001687
Starr, Paul
89-002780
Stauffer, J. R., Jr.
89-002009
89-002119
Stearley, Ralph F.
89-002289
Stearns, F. David
89-001930
Stebbins, Timothy D.
89-002169
Steeby, J. A.
89-001284
Steele, J. H.
89-003137
Steen, J. P.
89-002062
Stefferd, Jerome A.
89-002607
Stein, Roy A.
89-002830
Steine, Ivar
89-002916

89-001882
Stevenson, David K.
89-001819
89-002115
Stevenson, J. C.
89-003189
Stewart, A. J.
89-002170
Stewart, B. R.
89-002789
Stewart, K. W.
89-002211
Stewart, P. A. M.
89-002703
89-002707
Stiassny, Melanie L. J.
89-002291
Stickney, Robert R.
89-001458
Stockner, J.
89-002824
Stockner, John G.
89-002832
Stokes, Alvin D.
89-001454
Stone, Albert W.
89-003198
Stone, Nathan Mayhew
89-001341
Storebakken, Trond
89-001801
Storey, K. B.
89-001676
Stouder, Deanna J.
89-001945
Stouracova, Ilona
89-002184
Strachan, William M. J.
89-002463
Stradmeier, L.
89-001391
89-002010
Strand, Ivar E.
89-003138
Strand, J. A.
89-003139
Stratton, Richard F.
89-001483
89-001484
Strayer, David
89-002812
Strickland, Richard
89-002055
Strobel, Charles J.
89-002464
89-002533
Stroud, Richard H.
89-001342
Struble, Robert H.
89-003182
Strydom, W.
89-001654
Stuart, Jeffrey S.
89-001820

Subramanian, P.
 89-003127
 Subramanian, V.
 89-002974
 Sudo, Hiroyuki
 89-002045
 89-092047
 Sugita, Haruo
 89-002331
 Sugiyama, Tomonori
 89-002668
 Sukkel, M.
 89-001840
 Summerfelt, Robert C.
 89-002674
 Summers, G.
 89-001845
 Summers, J. Kevin
 89-002967
 Sumpter, J. P.
 89-001804
 Sun, Ching-Mu
 89-001707
 Sundborg, Ake
 89-002968
 Supan, J.
 89-002708
 Sureau, D.
 89-001823
 Surendran, P. K.
 89-003165
 Susser, M. J.
 89-002608
 Sutherland, John P.
 89-003067
 Sutherland, R. A.
 89-003008
 Sutinen, J. G.
 89-003084
 Sutinen, Jon G.
 89-003140
 Suzuki, Norio
 89-002315
 Suzuki, Osamu
 89-001713
 Suzuki, Yuzuru
 89-001808
 89-001824
 89-001825
 Sverdrup, H.
 89-002833
 Swale, Brian
 89-002292
 Swanson, Bruce L.
 89-001377
 Swanson, C.
 89-001826
 Swanson, Penny
 89-001827
 Swenson, William A.
 89-003191
 Sydenham, D. H. J.
 89-001402
 89-002663
 Tai, D. Y.
 89-002455
 Takahashi, H.
 89-001788
 Takamiya, Mitsuru
 89-001808
 Takao, K.
 89-002180
 Takashima, S. N.
 89-002702
 Takemura, K.
 89-001613
 Talbot, C.
 89-001829
 89-001830
 Tamaru, C. S.
 89-001831
 Tamaru, Clyde S.
 89-001318
 Tanaka, Kayo
 89-002545
 Tanaka, Masaru
 89-002045
 89-002047
 Tanaka, Takushi
 89-002319
 Tang, Y.
 89-001832
 Tapia Garcia, M.
 89-002087
 89-002089
 Tarapchak, Stephen J.
 89-002834
 Tarnas, David A.
 89-003141
 Tatner, M. F.
 89-001833
 Taylor, A. C.
 89-001774
 Taylor, D. Scott
 89-002089
 Taylor, F. H.
 89-002814
 89-003002
 Taylor, Frances R.
 89-002293
 Taylor, Jonathan G.
 89-002765
 Taylor, M. P.
 89-002814
 Teixeira, E. C.
 89-002969
 Teltsch, B.
 89-001407
 Temple, P. R.
 89-001504
 Tennessee Valley Authority
 89-001344
 Teska, Jeffrey D.
 89-002332
 Tester, Patricia A.
 89-001704
 89-001704

89-003013
 Theilling, D.
 89-003087
 Thibault, M.
 89-002090
 89-002653
 89-002661
 89-002970
 Thiebaut, J. Pierre
 89-002947
 Thim, Lars
 89-001634
 Thiemann, R. V.
 89-002465
 Thomas, G. L.
 89-001869
 89-002026
 89-002072
 Thomas, J. S.
 89-002405
 Thomas, Janet L.
 89-002975
 Thomas, John M.
 89-002476
 Thomas, N. A.
 89-002465
 Thomas, P.
 89-001635
 89-001715
 89-001772
 89-001798
 89-001813
 89-001834
 89-002328
 Thomas, Peter
 89-001612
 89-001636
 Thomas, Philip Thanuvellil
 89-002357
 Thomas, T.
 89-002609
 89-003142
 Thompson, James
 89-002404
 Thompson, R. K.
 89-002179
 Thomsen, Robert O.
 89-001328
 Thomson, Don A.
 89-003083
 Thomson, Martha
 89-001583
 Thorburn, Margaret A.
 89-002333
 89-002334
 89-002335
 Thoreson, Gunnar
 89-002539
 Thorneiof, Eva
 89-002451
 Thornton, K.
 89-002818
 Thornton, K. W.
 89-002941
 Thorne, J. F.
 89-002333
 Tiffert, K.
 89-003095
 Tilak, Raj
 89-002227
 Tindall, Donald R.
 89-002490
 Tinel, C.
 89-002956
 Ting, Yun-Yen
 89-001714
 Tippie, Dallas
 89-002013
 Tippie, V. K.
 89-003013
 Tissier, J.
 89-002971
 Titus, John E.
 89-002812
 Tjalve, Hans
 89-002484
 Tobias, William
 89-003171
 Toda, Kunio
 89-002315
 Todd, Malcolm J.
 89-002835
 Toetz, Dale W.
 89-001513
 Tokai, Tadashi
 89-002750
 Tol, Dennis
 89-001916
 Tomassini, F. D.
 89-002423
 Tomasso, J. R.
 89-001474
 89-001849
 Tomiyama, Minoru
 89-002047
 Tondevold, Erik
 89-002654
 Toner, Richard C.
 89-003017
 Tonkin, Chris
 89-002972
 Tonn, William M.
 89-002826
 Tonnessen, Kathy A.
 89-002466
 Torrans, Eugene L.
 89-001462
 Torres G., Alfredo
 89-001588
 Tosteson, T. R.
 89-001835
 Toth, I.
 89-001346
 Touzery, H.
 89-002090
 Townsend, C. R.
 89-002109
 Toyoshima, C.
 89-001572

Trivellato, D.
 89-002781
 Trotter, Patrick C.
 89-002092
 Truvellet, K. A.
 89-001871
 Tselikova, T. N.
 89-001907
 Tsoi, R. H.
 89-001905
 Tsukamoto, K.
 89-002614
 Tucker, C. S.
 89-001284
 Tucker, John W., Jr.
 89-001471
 Tung, Yeou-Keng
 89-002782
 Turner, C.
 89-002456
 Turner, C. J.
 89-001425
 Turner, Kent
 89-001264
 Turner, R. R.
 89-002425
 Turner, Robert J.
 89-001889
 Turner, Stephen C.
 89-003146
 Tuurata, H.
 89-002543
 Tweddle, D.
 89-002171
 Two, S. W.
 89-001455
 Tyler, Charles Rupert
 89-001837
 Tyus, Harold M.
 89-002228
 Tzyh-Chang Leu
 89-001626
 U.S. Environmental Protection Agency
 89-003018
 U.S. Fish and Wildlife Service
 89-003203
 U.S. General Accounting Office
 89-002610
 Ueira, F. M.
 89-002399
 Uchida, K.
 89-002014
 Uchida, Makoto
 89-002701
 Uchida, Naoyuki
 89-002545
 Uematsu, Hideo
 89-001811
 Ueno, Ryuji
 89-002577
 89-002617
 Ugedal, O.
 89-002150
 Ullrich, David
 89-002150
 Vaithiyathanathan, P.
 89-002974
 Valdes, E.
 89-002093
 Valdez, Richard A.
 89-003204
 Valeria, H.
 89-002353
 Valotairn, Yves
 89-001838
 Van Den Avy'e, M. J.
 89-002051
 van den Thillart, G.
 89-001839
 Van Densen, W. L. F.
 89-002690
 89-002709
 Van der Bank, F. H.
 89-001918
 Van der Kraak, Glen
 89-001333
 van der Meij, C. J. M.
 89-002406
 van der Steen, W. J.
 89-002763
 van der Stoep, J. W.
 89-002632
 van der Valk, A. G.
 89-001267
 van der Valk, Arnold
 89-002611
 Van Hassel, John H.
 89-002958
 89-002975
 Van Havre, N.
 89-002015
 van Moorsel, Godfried W. N. M.
 89-003147
 Van Oordt, P. G. W. J.
 89-001644
 Van Orman, Jeffrey L.
 89-002597
 van Waversveld, J.
 89-001839
 Van Weerd, J. H.
 89-001840
 Van't Veer, C.
 89-001644
 Vanderploeg, H. A.
 89-003168
 Vandesande, F.
 89-001745
 Vanni, Michael J.
 89-002016
 89-002794
 Vanstone, W. E.
 89-001786
 Varadi, L.
 89-001304
 89-001329
 89-001347
 89-001348
 89-001349
 Varaprasad, Mha

89-001307
89-002094
Varo, I.
89-001449
Vaudry, H.
89-001784
Veal, C. D.
89-002710
Velga Pires, L. C.
89-002976
Vens-Cappell, Bernhard
89-001392
Vera, L.
89-002670
Vernet, Maria
89-001841
Verspoor, E.
89-001883
Vertucci, Frank A.
89-002411
Vesselkin, Nicolas P.
89-001566
Vetter, Russell D.
89-001841
89-002477
Vicory, A. H.
89-002873
Vierke, Jorg
89-002017
Vigg, S.
89-001995
89-002000
Vigg, Steven
89-002993
Vignoli, F. O.
89-002996
Vijayan, M. M.
89-001393
Viktorovskii, R. M.
89-001877
Vilas, F.
89-003019
Villela, S. M.
89-002730
89-002969
Viola, S.
89-001472
89-001473
Virginia Institute of Marine Science
89-003197
Viveen, W. J. A. R.
89-001354
Voerman, J.
89-001502
Voiland, Michael P., Jr.
89-002795
Volobuyev, V. V.
89-001570
von der Decken, A.
89-001767
Vondracek, Bruce
89-002187
Voorzanger, B.
89-002763
Vose, F. F.

Waddell, I. F.
89-001381
Wafar, A. M.
89-002608
Wagner, Eric J.
89-002717
Wagner, Kenneth J.
89-001993
Wahl, David H.
89-002977
Wahli, I.
89-002364
Wainwright, Peter C.
89-001574
89-002018
Waldichuk, Michael
89-002467
89-002468
Wales, Donna L.
89-002446
Wales, N. A. M.
89-001842
Walker, K. F.
89-002963
Walker, W. W.
89-002546
Wall, G. J.
89-002469
Wallace, R. A.
89-001725
89-001777
Wallace, Robin A.
89-001778
Walling, D. E.
89-002553
89-002783
89-002950
Walter, G.
89-002308
Walter, Michael F.
89-002415
Walters, C. J.
89-002762
Walters, Gary E.
89-002023
Walters, Sandra M.
89-001807
Walther, Bernt T.
89-001790
Waltz, C. W.
89-003086
Wang, G. D.
89-002889
Wang, J. D.
89-002742
Wang, T.
89-002470
Wanstall, S. T.
89-002405
Warburton, Kevin
89-001575
89-002711
Ward, D. L.
89-002991

Ward, James W.
 89-002682
 Ward, T.
 89-002731
 Ward, T. J.
 89-002784
 Warden, R. L.
 89-002814
 89-003009
 Wardle, C. S.
 89-002712
 Warfvinge, P.
 89-002833
 Wasilewska, Dłandyna E.
 89-001350
 89-002989
 Watabe, Shugo
 89-001764
 Watanabe, Hisahiko
 89-003148
 Watanabe, Keisuke
 89-002327
 Watanabe, Yoshiro
 89-002188
 Watson, B. D.
 89-002042
 Watson, Cheryl
 89-003166
 Watson, Vicki
 89-002471
 Wattanavijarn, W.
 89-002358
 Way, K.
 89-002367
 Weatherley, A. H.
 89-001534
 89-001843
 Weatherley, L. R.
 89-001351
 89-001456
 Weaver, T.
 89-003004
 Webb, B. W.
 89-002783
 Webb, J. F.
 89-001576
 Webb, William J.
 89-002281
 Webster, Donald W.
 89-001405
 Weidner, D.
 89-002612
 89-003051
 89-003073
 89-003142
 89-003149
 89-003150
 Weinrich, Dale R.
 89-002881
 Weis, Judith S.
 89-002472
 Weis, Peddrick
 89-002472
 Wells, R. M. G.
 89-001845
 Wells, Rufus M. G.
 89-001611
 Welt, M.
 89-001719
 Wendelaar Bonga, S. E.
 89-002406
 Wendelaar Bonga, Sjoerd E.
 89-001698
 89-001846
 Wenke, Thomas L.
 89-002129
 Wenner, Charles A.
 89-002195
 Werner, Earl E.
 89-002830
 Werner, Y. L.
 89-002614
 Wesche, Thomas A.
 89-003192
 West, Niels
 89-003151
 West, Robin L.
 89-001930
 Westerdahl, H. E.
 89-002799
 Westers, Harry
 89-001352
 Westman, A.
 89-001767
 Westneat, M. W.
 89-001577
 Westrheim, S. J.
 89-002095
 Wetherbee, David Kenneth
 89-002230
 Wetterer, James Kelly
 89-002172
 Whale, Graham F.
 89-002517
 Whelan, Gary E.
 89-002688
 White, S. E.
 89-003130
 White, Sue
 89-003010
 White, Y. A.
 89-001847
 Whitfield, A. K.
 89-002801
 Whitfield, Alan K.
 89-003020
 Whittington, R. J.
 89-002336
 Wickins, J. F.
 89-001353
 Wicklund, Anders
 89-002548
 Wicks, J. M.
 89-002784
 Wiederholm, Anne-Marie
 89-002231
 Wiegand, M. D.
 89-001744

89-002980
Williams, Robert N.
Williams, J.
89-001793
Williams, Ann M.
89-002295
Williams, O. Dudley
89-002096
Williams, E. M.
89-001848
89-002549
Williams, Frank
89-003152
Williams, Jack E.
89-002297
Williams, John W.
89-002464
Williams, Mark L.
89-003144
Williams, R. Conrad
89-001384
Williams, Robert D.
89-003204
Williams, William D.
89-002981
Williford, C. W.
89-001422
Willot, Richard L.
89-002159
Wilson, A. C.
89-001902
Wilson, C. A.
89-002715
Wilson, Connie E.
89-001639
Wilson, G. A.
89-001495
Wilson, James R.
89-003075
Wilson, R. R., Jr.
89-002232
Wilson, Robin S.
89-003153
Inans, G.
89-001870
Indom, Herbert L.
89-001516
Infield, I. J.
89-002375
Inslow, Jane M.
89-002803
Inslow, Sara E.
89-002691
Inston, Matthew R.
89-001485
Inter, P. E. D.
89-001654
Inter, Thomas C.
89-001509
Ippelhauser, Gail S.
89-002019
Ischnath, Lothar
89-001486
Ise, David J.
89-001849
Ise, Hal

Wissmar, Robert C.
89-001517
Withers, Donna
89-003205
Withler, Ruth E.
89-001879
Witmer, G. W.
89-002647
Witt, U.
89-001257
Witte, J. J.
89-002140
Wohlgenuth, Evzen
89-002184
Wolf, Ken
89-002358
Wolfe, Steven H.
89-002515
Wongratana, Thosaporn
89-002258
89-002239
Woo, N. Y. S.
89-001550
Wood, Chris C.
89-001579
Wood, Chris H.
89-002452
Wood, L. A.
89-002529
Wood, Stephen C.
89-001551
Wootton, R. J.
89-002733
Word, Jack Q.
89-002476
Wotton, R. S.
89-002932
Wourms, I. P.
89-001553
Wourms, J. P.
89-001552
Wright, Patricia
89-001253
Wright, Richard F.
89-002933
Wu, E. H.
89-002020
Wulff, J. L.
89-002021
Wurtele, Morton G.
89-002932
Wurts, William A.
89-001458
Wydoski, Richard S.
89-002616
Yamada, H.
89-001554
Yamaguchi, Kazuo
89-001555
Yamamori, Kunio
89-001536
Yamamoto, Katsutaro
89-002535
Yamamoto, Ken-ichi

Yazdani, G. M.
 89-002318
 89-002233
 Yeh, Shin-Lih
 89-001714
 Yelverton, G. Frank
 89-002655
 Yen, I. S.
 89-001627
 Ying Sun
 89-003184
 Yoder-Williams, Michael
 89-002629
 Yokoo, Yoshiharu
 89-001855
 Yoshimizu, M.
 89-002369
 Yoshimizu, Mamoru
 89-002337
 89-002370
 Yoshinaka, Rei-ji
 89-001799
 Yoshinaka, Kefko
 89-002577
 89-002617
 Young, C. Edwin
 89-002474
 Young, Cliff
 89-002110
 89-003154
 Young, Graham
 89-001858
 Young, Michael K.
 89-003192
 Young, R. C.
 89-001859
 Youson, John H.
 89-001734
 Yu Hoxiang
 89-002371
 Yu X.
 89-001920
 Yu, K. L.
 89-001850
 Yu, Kei L.
 89-001815
 Yuan, Chongsheng
 89-002577
 89-002617
 Zachwieja, Jerzy
 89-002837
 Zaini, Mohamed Sulaiman
 89-001345
 Zajac, David
 89-002338
 Zakharov, A. B.
 89-001910
 Zalewski, Maciej
 89-002075
 Zamrzla, Bruce A.
 89-002129
 Zdanowski, Boguslaw
 89-002837

Zimmerman, Henry J.
 89-002986
 Zoettl, Heinz W.
 89-002555
 Zohar, G.
 89-001473
 Zonneveld, N.
 89-001354
 Zorica, M.
 89-002417
 Zubalik, S.
 89-002987
 Zuckerman, Laurence D.
 89-002239
 89-002618
 Zullo, E. S.
 89-003040
 Zupanc, G. K. H.
 89-001860
 Zweig, Ronald D.
 89-001427
 Zwerner, D. E.
 89-002303

This attractive paperbound book (available in both English and Spanish versions) to present a summary of the available information on several important world fishery resources in one convenient place. The book's twelve sections deal with history aspects of the mackerels, tunas, and billfishes as they pertain to their respective fisheries. The sections include a cursory survey of the taxonomic relationships of the groups, a summary of the fisheries, methods and status, and information on age-and-growth, food, behavior, and migration. Diagnostic line drawings and distribution summaries are presented for 61 species.

This book represents a concise "information center" for the interested lay reader as well as for the professional biologist. Illustrations (prepared by George Bonone) are artfully portrayed for 19 species. The diagrams depicting life history and species distribution are simple and accurate. A criticism I have is that, since the title implies a preponderance of the presentation deals with the international aspect of these fishes, I am disappointed that the information specifically pertaining to this subject was not more comprehensive. The text has a few errors which is surprising given that this is the second edition of a book which first appeared in 1979.

The authors and the Inter-American Tropical Tuna Commission have done a good job at preparing and producing a text that will be useful and informative for a wide audience of interested individuals. Scientists will find it provides them with a concise summary of these fishes. The bibliographic section, although not intended to be exhaustive, provides enough materials to serve as a starting point.

I recommend this book to anyone interested in pelagic fisheries. It is informative, well-artfully prepared, and the best part is that the price is very reasonable.--Stephen Bonone, Department of Biology, University of West Florida, Pensacola, FL 325

Africa: Zaire River and Basin
 89-002846
 89-002947
 Alabama, Northern
 89-002495
 Alabama: Guntersville Reservoir
 89-003009
 Alaska
 89-001277
 89-001504
 89-002032
 89-002153
 89-002218
 89-002393
 89-002563
 89-002564
 89-002771
 89-002868
 89-003096
 89-003104
 89-003134
 Alaska, Southeastern
 89-002863
 89-003015
 Alaska: Aleutian Islands
 89-002023
 Alaska: Chignik Lakes
 89-002167
 Alaska: Colville Delta
 89-002105
 Alaska: Colville River
 89-002746
 Alaska: Gulf of Alaska
 89-002059
 89-002071
 89-003133
 Alaska: Koryuk River
 89-002159
 Alaska: Prudhoe Bay
 89-002630
 Alaska: Sagavanirktok River
 89-002003
 Alaska: Tanana River
 89-001930
 Alaska: Yukon River
 89-001930
 Antarctica
 89-002058
 89-002261
 Arabian Sea and Area
 89-002504
 Arctic Ocean
 89-002563
 Argentina
 89-002275
 89-003116
 Argentina: Parana River
 89-002882
 Arizona
 89-001274
 Arkansas
 89-002941
 Arkansas, Southeastern
 89-002216
 Arkansas: Bull Shoals Reservoir
 89-002595
 Arkansas: Illinois River
 89-002861
 Asia
 89-002393
 Asia, Southwestern
 89-002614
 Atlantic Ocean
 89-002195
 89-002581
 Atlantic Ocean, Eastern
 89-002192
 Atlantic Ocean, North
 89-001507
 89-001699
 89-001819
 89-001872
 89-001899
 89-001913
 89-001953
 89-001972
 89-002029
 89-002040
 89-002080
 89-002106
 89-002115
 89-002126
 89-002127
 89-002128
 89-002134
 89-002139
 89-002140
 89-002176
 89-002198
 89-002223
 89-002377
 89-002418
 89-002464
 89-002706
 89-002729
 89-002760
 89-003021
 89-003033
 89-003034
 89-003053
 89-003054
 89-003063
 89-003066
 89-003093
 89-003125
 89-003146
 Atlantic Ocean, North: Atlantic Bight
 89-002054
 89-002108

89-002215	89-002539
Atlantic Ocean, Northwestern	89-002911
89-001508	89-003095
89-002155	Barbados
89-002303	89-002659
89-003115	Beaufort Sea
Atlantic Ocean, South	89-002003
89-002051	89-002032
89-002214	89-002105
Atlantic Ocean, Southwestern	89-002564
89-003116	89-002630
Atlantic Ocean: South Atlantic Bight	89-002746
89-003067	89-002771
Australia	89-003104
89-002241	89-003134
89-002242	Belgium: Meuse River
89-002256	89-002650
89-002257	89-002953
89-002259	Bering Sea
89-002260	89-001578
89-002261	89-002023
89-002262	89-002043
89-002263	89-002050
89-002264	89-002055
89-002267	89-002095
89-002272	89-002153
89-002273	Bermuda Islands
89-002274	89-003089
89-002278	Black Sea and Area
89-002284	89-001892
89-002285	89-001904
89-002287	Bolivia: Beni River
89-002298	89-002902
89-002336	Bolivia: Rio Mamore
89-002380	89-002296
89-002383	Borneo: Brunel Bay
89-003105	89-002638
Australia: Bass Strait	Brazil
89-003153	89-002951
Australia: Great Barrier Reef	89-002961
89-002151	89-002996
89-002154	Brazil: Itajai-Acu River
89-002240	89-002962
Australia: New South Wales	Brazil: Mogi-Guaçu River
89-002397	89-002349
Australia: New South Wales: Darling River	89-002355
89-002963	Brazil: Trombetas River
Australia: New South Wales: Murray River	89-002976
89-002963	Brazil: Velhas River
Australia: Queensland	89-002879
89-001721	California
89-002397	89-001276
Australia: Queensland: Coomera Island	89-001365
89-002634	89-001370
Australia: Queensland: Hinchinbrook Island	89-001387
89-002554	89-002131
Australia: South Australia	89-002362
89-002679	89-002429
Australia: Topgallant Island	89-002641
89-002258	89-002657
Australia: Western Australia	89-002698
89-002110	89-002748
89-003047	89-002773
89-003072	

California: Emerald Lake	89-002973	89-002440
89-002875		89-002446
California: Farallon Islands	89-002433	89-002448
89-002433		89-002521
California: Inyo County	89-002293	89-002811
89-002293		89-003003
California: Kaweah River	89-002603	Canada: Ontario: Lynde Cre
89-002603		89-002486
California: Lake Tahoe	89-002875	Canada: Ontario: Middle Th
89-002209		89-001988
California: Mono County	89-002603	Canada: Ontario: Nelson La
89-002603		89-002800
California: Monterey Bay	89-002547	Canada: Ontario: Niagara R
89-002547		89-002884
California: Navarro River	89-001914	Canada: Ontario: Ottawa Ri
89-001914		89-002213
California: Sacramento River	89-002148	Canada: Ontario: Tadenac L
89-002148		89-002063
California: San Francisco Bay	89-003100	Canada: Prince Edward Isla
89-003100		89-002057
California: San Joaquin Delta	89-001581	Canada: Quebec
89-001581		89-001453
California: San Joaquin River	89-002148	89-001541
89-002148		89-002178
89-002922		89-002872
California: Sierra Nevada	89-002466	89-002893
89-002466		89-002954
89-002629		89-003169
California: Suisan Marsh	89-002148	89-003172
89-002148		Canada: Quebec: Calumet Ri
Cameroon	89-002609	89-001939
89-003052		Canada: Quebec: Isle Verte
Canada		89-002015
89-001658		Canada: Quebec: Lake St. Jo
89-002850		89-002809
89-002995		Canada: Quebec: Matamek Riv
89-003104		89-002430
89-003134		Canada: St. Lawrence Seaway
Canada, Eastern		89-001939
89-001388		89-003014
89-002127		Canada: Yukon
89-003115		89-002636
Canada: Alberta		Canada: Yukon: Yukon River
89-002079		89-002201
89-002826		Caribbean Area
Canada: Alberta: Sandy Lake		89-001445
89-002313		89-001954
Canada: Alberta: Wolf Lake		89-001956
89-002313		89-002021
Canada: Bay of Fundy		89-002189
89-002096		89-002222
89-003050		89-003042
Canada: British Columbia		89-003044
89-001879		89-003045
89-002218		89-003062
89-002393		89-003103
89-002780		89-003117
Canada: British Columbia: Elsie Lake		89-003132
89-002716		89-003147
Canada: British Columbia: Kennedy Lake		89-003152
89-001959		Caspian Sea
		89-001904
		Chile
		89-001505

89-002740
China: Yellow River and Basin

89-002928

Christmas Island

89-002243

89-002280

89-002381

Colombia

89-002295

89-003082

Colorado

89-001275

89-001309

89-001364

89-001519

89-002086

89-002618

89-002986

Colorado: Blue Mesa Reservoir

89-002994

Colorado: Colorado River

89-002276

Colorado: Eleven Mile Reservoir

89-002124

Colorado: Gunnison River

89-002966

Colorado: Joe Wright Creek

89-002874

Colorado: Larimer County

89-002990

Colorado: Rio Grande

89-002239

Colorado: Weld County

89-002990

Columbia: Rio Orinoco

89-002271

Comoros

89-002222

iver

onnecticut River

89-002865

89-003084

89-003123

Costa Rica: Cano Island

89-003065

Cuba

89-001429

89-001523

89-002093

89-002445

89-003142

Curacao Group

89-003147

Czechoslovakia

89-002182

Delaware: Delaware Bay

East Germany: Lake Nausssee

89-002754

East Germany: Lake Stechlin

89-002792

England

89-001972

89-002114

89-002198

England: Bristol Channel

89-002147

England: Creedy River

89-002783

England: Dart River

89-002783

89-002950

England: Exe River

89-002783

England: Itchen River

89-002067

England: Jackmoor Brook

89-002950

England: Lake Alderfen Broad

89-002109

England: Lake Slapton Ley

89-002109

England: Lancaster Canal

89-002130

England: Severn Estuary

89-002147

England: Severn River

89-002379

89-002405

89-002942

England: Worfe River

89-002379

Europe

89-001546

89-002136

89-002815

89-003033

89-003063

Europe, Northern

89-002911

89-002968

Europe: Iberian Peninsula

89-002199

89-002204

89-002208

89-002252

89-003019

Europe: Rhine River and Basin

89-002427

Finland

89-001749

89-001759

89-002121

89-002185

89-002454

89-002911

Finland: Kalajokki River

89-002039

Finland: Kyrönjoki River

89-002957

Finland: Lake Pääjärvi

Florida: Lapudjok River
89-002957
Florida
89-001452
89-002089
89-002447
89-002615
89-003099
89-003117

Florida, Northeastern
89-002570

Florida, Southwestern
89-003112
89-003113
89-003114

Florida: Appalachian River
89-002085

Florida: Biscayne Natl. Park
89-002419
89-002742
89-003016

Florida: Florida Bay
89-002007
89-002008

Florida: Lake Baldwin
89-002084

Florida: Tampa Bay
89-002623

France
89-001363
89-001398
89-001865
89-002090
89-002310
89-002628
89-002653
89-002661
89-002718
89-002781
89-002845
89-002880
89-002970
89-003054

France: Adour River
89-002857

France: Allier River
89-001360
89-002852
89-002878
89-002900

France: Bresle River
89-002892

France: Dordogne River
89-002956

France: Garonne River
89-002870

France: GarLempe River
89-002687

France: Gave de Pau River
89-002924

France: Lake Leman
89-001609
89-001610
89-002793

89-002125
89-002959
France: Thouques River
89-002971
France: Verdon River
89-002898
French Guiana
89-001397
Georgia
89-002886
Georgia: Lake Seminole
89-002799
Germany: Lech River
89-002751
Ghana
89-002163
Great Britain
89-002901
Great Lakes
89-001946
89-002403
89-002463
89-002465
89-002469
89-002796
89-002802
89-002810
89-002819
89-002825

Gi

C

89-002475
89-002715
89-002896
89-003056
89-003057
89-003068
89-003101
89-003112
89-003113
89-003114
89-003115

89-002388
 89-003130
 Idaho
 89-001370
 89-001387
 89-002676
 89-002840
 89-002854
 89-003174
 89-003202
 Idaho: Bear Lake
 89-002592
 Idaho: Big Springs Creek
 89-002552
 Idaho: Clearwater River
 89-002862
 89-002919
 Idaho: Granite Reservoir
 89-001805
 Idaho: Reynolds Creek
 89-002784
 Idaho: Snake River
 89-002091
 Idaho: St. Joe River
 89-002952
 Illinois
 89-001272
 89-002281
 89-002785
 89-003167
 Illinois: Illinois River
 89-002849
 Illinois: Kankakee River
 89-002920
 India
 89-001549
 89-002227
 89-002233
 89-002579
 89-002974
 89-003157
 India: Assam Region
 89-002247
 India: Gulf of Mannar
 89-003127
 India: Jalnahal Lake
 89-002442
 India: Mahalon Lake
 89-002442
 India: Tigris River
 89-002839
 Indian Ocean
 89-001575
 89-002044
 89-002048
 89-002162
 89-002226
 89-002268
 89-002282
 Indiana
 89-001272
 89-002785
 Indonesia
 89-001354
 89-001366
 Ireland
 89-002409
 89-001766
 89-002035
 89-002036
 89-002041
 Ireland: Lefxlip Reservoir
 89-001878
 Ireland: Roundwood Reservoir
 89-002037
 Israel
 89-001472
 89-002384
 89-002566
 Israel: Lake Hula
 89-002648
 Israel: Lake Kinneret
 89-002143
 Italy
 89-002431
 Italy: Bay of Naples
 89-001598
 Italy: Menegatta Brook
 89-001974
 Jamaica
 89-003022
 Japan
 89-001374
 89-001376
 89-001442
 89-001977
 89-002083
 89-002339
 89-002685
 89-002696
 89-003148
 Japan: Lake Biwa
 89-002806
 Japan: Shijiki Bay
 89-002045
 89-002047
 Kansas: Wilson Reservoir
 89-002129
 Kentucky: Cumberland River
 89-002627
 Kenya
 89-002871
 89-003008
 Kuwait
 89-002325
 Lake Erie
 89-001661
 89-001700
 89-002803
 Lake Michigan
 89-001966
 89-002428
 89-002688
 89-002785
 89-003168
 Lake Ontario
 89-001949
 89-002034
 89-002795

	Massachusetts: Mount Hope
89-002238	89-003017
Louisiana: Hook Lake	Mediterranean Bayton
89-002239	89-003521
Louisiana: Calcasieu Estuary	89-003957
89-002242	89-002210
Louisiana: Jodel Lake	89-002246
89-002238	89-002422
Maine	89-003033
89-002126	Mexico
Maine: Bay of Fundy	89-001299
89-003050	89-001445
Maine: Green Lake	89-001604
89-002434	89-001886
Maine: Gulf of Maine	89-001947
89-001819	89-002138
89-002115	89-002196
Maine: Horseshoe Pond	89-002203
89-002434	89-002572
Maine: Lost Pond	89-002602
89-002434	89-003118
Maine: Penobscot River Estuary	Mexico: Northeastern
89-002019	89-002197
Maine: Unnamed Pond	Mexico: Baja California Nor
89-002434	89-002225
Malawi	Mexico: Baja California Sur
89-002171	89-002225
Malawi: Lake Malawi	Mexico: Campeche
89-001980	89-002087
89-002119	89-002656
89-002700	Mexico: Campeche: Terminos I
Malaysia	89-002088
89-001345	Mexico: Coahuila
89-002921	89-002066
Marshall Islands	Mexico: Gulf of California
89-002780	89-001533
Martinique	89-001539
89-001411	89-002052
89-001439	89-003083
89-001444	Mexico: Rio Alamo
89-001451	89-002224
89-001592	Mexico: San Luis Potosi
89-001700	89-002585
89-001827	Mexico: Sonora
89-002103	89-001989
89-002195	Mexico: Tabasco
89-003017	89-002087
89-003060	Michigan
89-003064	89-001272
89-003151	Michigan: H.H. Dow Pond
89-003152	89-002988
Maryland	Michigan: Lake St. Clair
89-002435	89-001946
Maryland: Chesapeake Bay	Michigan: Pine Creek
89-002640	89-002550
Maryland: Choptank River	Michigan: Sessions Lake
89-002680	89-001511
Maryland: Mattawoman Creek	Minnesota
89-002914	89-001272
Maryland: Nantuxoke River	Minnesota: Blackhoof River
89-002680	89-002194
Maryland: Potomac River	Minnesota: St. Croix River
89-002967	89-002194

89-001273
 89-001379
 89-002061
 89-002064
 89-002639
 89-002937
 89-003004
 89-003198
 Montana: Clark Fork
 89-002471
 Montana: Kootenai River
 89-002929
 Montana: Squaw Creek
 89-002887
 Montana: Yellowstone River
 89-001630
 Morocco
 89-003000
 Namibia
 89-001981
 89-002102
 89-002214
 Nebraska
 89-001370
 89-002593
 Nepal: Indrawati River
 89-003180
 Nepal: Karnali River
 89-002212
 Netherlands
 89-002632
 89-002690
 Netherlands: Lake Elfneven
 89-002541
 Netherlands: Lake Frisian
 89-001502
 Netherlands: Lake Negenrad
 89-001502
 Netherlands: Lake Tjeukemeer
 89-002808
 Netherlands: Lake Westeinder
 89-002541
 Netherlands: Loosdrecht Lakes
 89-001265
 Nevada
 89-001275
 89-001370
 89-002013
 89-002200
 89-002219
 89-002244
 89-002297
 89-003199
 89-003202
 89-003205
 Nevada: Colorado River
 89-002945
 Nevada: Esmeralda County
 89-002220
 Nevada: Lahontan Reservoir
 89-002993
 Nevada: Lake Mohave
 89-002060
 89-002070
 Nevada: Virgin River
 89-003200
 Nevada: Walker Lake
 89-002209
 New Hampshire
 89-002126
 89-002571
 New Jersey: Passaic River
 89-002635
 New Jersey: Piles Creek
 89-002472
 New Jersey: Pine Barrens
 89-002078
 New Jersey: Sand Hook Bay
 89-002142
 New Mexico
 89-001274
 89-001928
 89-001998
 89-002098
 89-002607
 New Mexico: Gila River
 89-002221
 New Mexico: Rio Grande
 89-002731
 New Mexico: Tesuque Creek
 89-002936
 New York
 89-001765
 89-002418
 89-002555
 89-002795
 89-002805
 New York: Adirondack Lakes
 89-002411
 89-002416
 89-002747
 89-002823
 New York: Conscience Bay
 89-002412
 New York: Delaware River
 89-002415
 New York: Eighteen Mile Creek
 89-001949
 New York: Hudson River
 89-001400
 89-002141
 89-002738
 New York: Lake Canadawago
 89-002100
 New York: Long Island
 89-002472
 New York: Niagara River
 89-002884
 New York: Oneida Lake
 89-001983
 89-002817
 New York: Sandy Creek
 89-001949
 New Zealand
 89-002056
 89-002122
 89-002250
 89-002261

89-002072
89-002329
89-002373
89-002392
89-002562
89-002585
89-002587
89-002815
89-003048
North America: Colorado River and Basin
89-002217
89-002276
89-002860
89-002945
89-002973
89-003204
North America: Columbia River and Basin
89-001870
89-001942
89-002302
89-002619
89-002637
North America: Rio Grande and Basin
89-002239
North Carolina
89-001704
89-002080
89-002108
89-002655
89-003080
89-003097
North Carolina: Albemarle Sound
89-002691
North Carolina: Belews Lake
89-002390
North Carolina: Cape Fear River
89-002691
North Carolina: Neuse River
89-002099
89-002691
North Carolina: Tar River
89-002099
North Carolina: Tar-Pamlico River
89-002691
North Dakota
89-001273
Northern Ireland: Lough Neagh
89-002375
Norway
89-001372
89-001430
89-001659
89-002106
89-002128
89-002235
89-002354
89-002401
89-002437
89-002438
89-002453
89-002458
89-002684
89-002694
89-002833
89-002851
89-002964

89-002844
89-002888
Norway: Glama River
89-002856
Norway: Glomma River
89-002859
Norway: Hallingdalselv River
89-002838
Norway: Insa River
89-001441
89-001697
Norway: Laerdalselva River
89-002960
Norway: Lake Femund
89-002827
Norway: Namsen River
89-001919
Norway: Skjema River
89-002633
Norway: Suldaalslagen River
89-002654
89-002927
89-002960
Norway: Vardnes River
89-002191
Ohio
89-002803
Okinawa: Genka River
89-001547
Oklahoma
89-001996
89-002046
Oklahoma, Southwestern
89-002216
Oklahoma: Brier Creek
89-002170
Oklahoma: Flint Creek
89-002847
Oklahoma: Lake Hefner
89-001513
Oregon
89-001365
89-001387
89-001670
89-001931
89-002073
89-002186
89-002244
89-002854
89-003190
Oregon: Big Creek
89-002624
Oregon: Cascade Mountains
89-002931
Oregon: Clackamas River
89-002855
Oregon: Hood River
89-002855
89-002864
Oregon: John Day Reservoir
89-001382
89-001995
89-002000
89-002991
Oregon: Lincoln County
89-002624

89-002074	Puerto Rico
Oregon: Willamette River	89-001835
89-001359	89-003046
89-002074	Red Sea and Area
Pacific Ocean	89-001978
89-001518	89-002210
89-001932	89-002246
89-002236	89-002384
89-002329	Rhode Island
89-002387	89-002033
89-002657	Rhode Island: Bullhead
89-002779	89-002145
89-003048	Rhode Island: Mount Hope
89-003069	89-003017
89-003120	Rhode Island: Narragansett
89-003135	89-003011
Pacific Ocean, North	Rhode Island: Taunton
89-001570	89-003017
89-002025	Ryukyu Islands
89-002055	89-002280
89-002059	Saudi Arabia
89-002071	89-002408
89-002133	Scotland
89-002186	89-001381
89-002188	89-002177
89-002218	89-002301
89-002393	89-002704
89-002429	89-002707
89-002620	89-002909
89-003106	89-003027
89-003107	89-003030
89-003136	89-003035
Pacific Ocean, Northeastern	89-003076
89-002043	89-003088
89-002050	89-003090
89-002095	89-003092
89-002270	89-003094
Pacific Ocean, South	89-003128
89-001505	89-003137
89-001506	89-003143
89-001575	Scotland: Loch Fleet
89-002173	89-001510
89-002174	89-002789
89-002226	89-002790
89-002280	Scotland: Loch Lomond
89-002282	89-001616
89-002396	89-001960
89-002774	Scotland: Lussa River
Panama	89-001697
89-001415	Scotland: Tilt River
89-001996	89-002010
89-002248	Sierra Leone
Pennsylvania	89-003070
89-002805	Singapore
Pennsylvania: Pequea Creek	89-002300
89-002955	South Africa
Philippines	89-001873
89-001401	89-002024
89-001432	89-002044
89-002645	89-002048
Philippines: Casecan Reservoir	89-002288
89-003010	89-002667
Philippines: Magat Reservoir	89-002801
	89-003193

89-002444	Tennessee: Fort Loudoun Lake
89-002876	89-002804
89-002933	Tennessee: Old Hickory Reservoir
89-002948	89-002719
89-002965	Tennessee: Pickwick Reservoir
89-002979	89-002494
South Dakota	Tennessee: Ramsey Creek
89-001273	89-002940
Spain	Tennessee: Tims Ford Reservoir
89-001883	89-003002
89-002190	Tennessee: Wilson Reservoir
89-002205	89-002494
89-002206	Texas
89-002207	89-001446
89-002608	89-003057
89-002894	89-003080
89-002930	Texas, Southern
89-003019	89-001612
89-003024	89-002475
Spain: Torrejon Reservoir	Texas: Henderson County
89-001530	89-002069
Spain: Urola River	Texas: Laquana Madre
89-002514	89-002104
Spain: Valdecana Reservoir	Texas: Lake Trinidad
89-001530	89-002069
Sri Lanka	Texas: Menard County
89-001317	89-001875
89-003007	Texas: Ray Roberts Lake
Sri Lanka: Gulf of Mannar	89-003006
89-003127	Texas: Trinity River
Sri Lanka: Negombo Estuary	89-002980
89-002407	Thailand
Sudan: Nile River	89-001330
89-002846	89-001414
Sweden	89-002358
89-002333	89-003110
89-002410	Trinidad and Tobago
89-002451	89-002030
89-002539	89-002306
89-002646	89-002735
89-002787	U.S. Virgin Islands
89-002833	89-002149
Sweden: Indalsälven River	89-003041
89-002906	89-003171
Sweden: Lake Hecklan	United Kingdom
89-002820	89-003031
Sweden: Ljusnan River	United States
89-002906	89-001267
Sweden: Teuronjoki River	89-001268
89-002982	89-001269
Sweden: Umeälven River	89-001375
89-002899	89-001509
Switzerland	89-001512
89-002364	89-002123
Switzerland: Lake Lemman	89-002279
89-001609	89-002450
89-001610	89-002497
Switzerland: Rhone River	89-002556
89-002959	89-002565
Taiwan	89-002569
89-001287	89-002578
89-001433	89-002581
89-001455	89-002588
89-001626	89-002590

89-003203	89-002807
United States, Eastern	USSR: Lake Shchuch'e
89-001953	89-002344
89-002107	USSR: Lake Shugonyak
89-002459	89-002807
89-002460	USSR: Volga River
89-003059	89-002866
89-003109	Utah
89-003111	89-001275
89-003146	89-001370
United States, Northeastern	89-003202
89-001270	Utah: Bear Lake
89-002786	89-002592
89-003129	Utah: Bonneville Basin
United States, Northwestern	89-001903
89-001358	Utah: Colorado River
89-002026	89-002217
89-002923	89-003204
89-002999	Utah: Green River
United States, Southeastern	89-002228
89-001271	Utah: Lake Powell
89-001445	89-002217
89-001516	Utah: Virgin River
89-001868	89-001937
89-002195	89-002908
89-002649	89-003200
89-002743	Venezuela
89-003042	89-001997
89-003108	89-002164
89-003131	89-003119
89-003144	89-003126
89-003155	Venezuela: La Restinga Lag
89-003159	89-003077
United States, Southwestern	Venezuela: Rio Orinoco
89-001274	89-002253
89-002767	89-002255
United States, Western	89-002271
89-001952	Vermont
89-002094	89-002755
89-002568	Vermont: Lake Champlain
89-002765	89-002474
United States: Appalachian Area	Vermont: West River
89-002912	89-002625
United States: Chesapeake Bay	Vermont: White River
89-002680	89-002683
89-002689	Virgin Islands
89-002881	89-003038
89-003012	89-003039
89-003013	89-003040
89-003018	89-003046
89-003197	Virginia: Elizabeth River
United States: Middle Atlantic States	89-002533
89-003121	Virginia: Potomac River
United States: Mississippi River and Basin	89-002967
89-001906	Wales
89-002622	89-002114
89-002814	Washington
89-002849	89-001365
89-002896	89-001387
United States: Missouri River and Basin	89-001931
89-002907	89-001990
89-002949	89-002073
United States: Ohio River and Basin	89-002218
89-002969	89-002662

89-001995
89-002000
89-002991
Washington: Lake Lenore
89-002157
Washington: Lake Washington
89-002797
Washington: Mount St. Helens
89-002637
89-002682
Washington: North Coldwater Lake
89-001517
Washington: Puget Sound
89-001927
89-002505
89-003139
Washington: South Castle Lake
89-001517
Washington: Spirit Lake
89-001517
Washington: Wilkeson Creek
89-002452
Washington: Yakima River
89-002042
West Germany
89-001416
89-002111
89-002555
89-003095
West Virginia: Crouch Run
89-002912
West Virginia: Kanawha River
89-002977
West Virginia: Yokum Run
89-002912
Wisconsin
89-001272
89-002373
89-002473
89-003176
Wisconsin: Big Lake Sissabagama
89-002443
Wisconsin: Coon Creek
89-002932
Wisconsin: Lake Escanaba
89-001390
Wisconsin: Sand Creek
89-002932
Wyoming
89-001273
89-001367
89-002181
89-003202
Wyoming: Crazy Woman Creek
89-002085
Wyoming: Powder River
89-002085
Wyoming: Yellowstone Lake
89-002385
Yugoslavia
89-002348

Larval Identification	89-002112
89-002277	Habitat Selection
Life History/General	89-002112
89-001878	Life History/General
Management/Research-Lakes	89-002028
89-002808	Spawning
Parasites/Diseases	89-002112
89-002309	Spawning Substrates
Predator/Prey Relationships	89-002112
89-002808	Acipenser oxyrinchus
Trophic Relationships	Life History/General
89-002808	89-002028
Abramites eques	Acipenser ruthenus
Taxonomy	Collagen
89-002295	89-001799
Abramites hypselonotus	Hybridization
Taxonomy	89-001799
89-002295	Musculature
Acanthocheilichthys solandri	89-001799
Theroregulation	Acipenser sturio
89-001650	Abundance/Factors of
Acanthopagrus	89-002022
Parasites/Diseases	Landlocked Populations
89-002380	89-002022
Parasitic Copepods	Life History/General
89-002380	89-002022
Acanthopagrus australis	Acipenser transmontanus
Atella macrotrachelus	Age/Growth
89-002397	89-001820
Gill Parasites	Culture/Propagation
89-002397	89-001820
Parasites/Diseases	Diets
89-002397	89-001820
Parasitic Copepods	Feeding Experiments
89-002397	89-001820
Acanthopagrus cuvieri	Food Conversion Efficiency
Bacterial Diseases	89-001820
89-002325	Life History/General
Culture/Propagation	89-001870
89-002325	Population Genetics
Parasites/Diseases	89-001870
89-002325	Population Studies
Vibrio anguillarum	89-001870
89-002325	Proteins
Vibriosis	89-001820
89-002325	Agosia chrysogaster
Acanthurus albipectoralis	Larval Drift
Distribution/Geographical	89-002098
89-002240	Morphology
Morphology	89-001542
89-002240	Alburnus alburnus
New Species	Enzymes
89-002240	89-001864
Acanthurus nigrofasciatus	Hybridization
Habitat Selection	89-001864
89-001978	Isozymes
Movements	89-001864
89-001978	Alloctylus
Acheilognathus rhombea	Age/Growth
Hormones	89-002179
89-001580	Otoliths
Reproduction	89-002179
89-001580	Alosa aestivalis

89-002132	89-002132
Habitat Selection	Mortality Rates
89-002581	89-002081
Larval Drift	Population Studies
89-002057	89-002107
Life History/General	89-002881
89-002057	Recruitment
89-002132	89-002081
89-002581	Regulations/General
Management/Research--General	89-002881
89-002581	Reintroductions
Migration	89-002689
89-002132	Restoration of Anadromy
Photoperiodism	89-002689
89-002057	Spawning Migration
Population Studies	89-002107
89-002107	Stocking/Introduction
Season	89-002689
89-002057	Temperature
Spawning Migration	89-002132
89-002107	Year Class Strength
Temperature	89-002081
89-002132	Altilus kirki
Alosa mediocris	Light
Abundance/Factors of	89-001690
89-002107	Salinity
Population Studies	89-001690
89-002107	Temperature
Spawning Migration	89-001690
89-002107	Aluteros monoceros
Alosa pseudoharengus	Distribution/Geography
Abundance/Factors of	89-002202
89-002107	Amphipiles rupestris
Habitat Selection	Aquatic Plants
89-002581	89-001946
Life History/General	Coexistence
89-002581	89-001946
Management/Research--General	Competition
89-002581	89-001946
Population Studies	Habitat Selection
89-002107	89-001946
Spawning Migration	89-001949
89-002107	Movements
Alosa sapidissima	89-001949
Abundance/Factors of	Orientation/Homing
89-002107	89-001949
89-002881	Temperature
Commercial Fishing	89-001949
89-002881	Temperature Selection
Culture/Propagation	89-001949
89-002689	Ammodytes hexapterus
Density	Life History/General
89-002081	89-002043
Exploitation Rates	89-002095
89-002881	Amphelikturus dendritic
Flow Regimes	Distribution/Geography
89-002132	89-002189
Habitat Alterations	Amphiprion clarkii
89-002689	Learning
Habitat Selection	89-001985
89-002581	Symbiosis
Impoundment	89-001985
89-002689	Amphiprion frenatus
Life History/General	Aquariums
89-002581	

89-001985	89-001698
Amphiprion perideraion	Culture/Propagation
Learning	89-001353
89-001985	89-001406
Symbiosis	89-001409
89-001985	89-001410
Amphiprion polyneus	89-001435
Learning	89-001469
89-001985	89-001487
Symbiosis	89-002184
89-001985	Early Development
Amphiprion sandarachinos	89-001409
Learning	Electrical Guiding System
89-001985	89-001487
Symbiosis	Endocrinology
89-001985	89-001645
Anabas testudineus	Feeding Experiments
Cytochrome	89-001469
89-001776	Feeds
Endocrinology	89-001469
89-001776	Fingerling Production
Enzymes	89-001406
89-001776	89-001410
Metabolism	89-002184
89-001776	Fish Grading
Thyroxine	89-001353
89-001776	89-001409
Anchoa mitchilli	Flow Regimes
Nursery Areas	89-002911
89-002142	Foods/Feeding
Predator/Prey Relationships	89-001469
89-002142	89-001652
Anguilla	89-002143
Culture/Propagation	Gas Supersaturation
89-001311	89-002453
Distribution/Geographical	Growth Hormone
89-002033	89-001645
Fish Grading	Harvest
89-001311	89-003095
Habitat Selection	Heavy Metals
89-002033	89-002514
Harvest	Hematology
89-002033	89-001698
Management/Research--Rivers and	89-002376
Streams	Hydroelectric Developments
89-002250	89-002453
Anguilla anguilla	Hypoxia
Age/Growth	89-001779
89-001406	Ion Transport
89-001409	89-001698
89-001410	Larvae
89-001435	89-001487
89-001646	Management/Research--Marin
89-001652	89-003095
89-002143	Management/Research--River
89-002184	Streams
Armonia	89-002911
89-001410	Marking/Tagging
Angler Surveys	89-002675
89-003095	Metabolic Rates
Anguillicola crassus	89-001410
89-002376	89-001646
Biosorption	Modeling
89-002514	89-001469

89-002376
Power Plants
89-002453
Protozoan Diseases
89-002341
Rearing Density
89-001435
Recirculating Systems
89-002184
Recreational Benefits
89-003095
Reservoir Release Effects
89-002453
Respiratory System
89-001779
Stock Assessment
89-002911
Tank Culture
89-001487
Techniques/Hormones
89-001645
Techniques/Water Quality
89-001487
Temperature
89-001469
89-001646
89-001652
89-002184
Thermal Pollution
89-002453
Thermal Tolerance
89-002184
Thyroxine
89-001645
Anguilla australis
Distribution/Geographical
89-002056
Life History/General
89-002056
Anguilla dieffenbachii
Distribution/Geographical
89-002056
Life History/General
89-002056
Anguilla japonica
Aeromonas hydrophila
89-002316
Bacterial Diseases
89-002316
Collagen
89-001799
Musculature
89-001799
Parasites/Diseases
89-002316
Treatment
89-002316
Anguilla rostrata
Activity Patterns
89-001939
Drift
89-002763
Endocrinology
89-001676

89-001876
Larval Behavior
89-002019
Larval Drift
89-002019
Life History/General
89-002019
Lunar Influences
89-002019
Metabolism
89-001675
89-001676
Movements
89-002019
89-002763
Photoperiodism
89-002019
89-002763
Plankton
89-002763
Rhythmicity
89-001939
Tides
89-001939
89-002019
89-002763
Anisotremus virginicus
Foods/Feeding
89-001574
Musculature
89-001574
Pharyngeal Teeth
89-001574
Anoplaceros lenticularis
Toxins
89-001688
Anoplopoma fimbria
Abundance/Factors of
89-003133
Age/Length Composition
89-003133
Foods/Feeding
89-001679
Management/Research--Marine
89-003133
Metabolism
89-001679
Modeling
89-003133
Population Studies
89-003133
Recruitment
89-003133
Respiration
89-001679
Stock Assessment
89-003133
Anoptichthys
Evolution
89-001561
Eyes
89-001561
Light
89-001561

89-001868	Techniques/Mucus
Water Level Fluctuations	89-001583
89-002920	Variation Studies
Zoogeography	89-001583
89-001868	<i>Arius thalassinus</i>
<i>Aplodactylus westralis</i>	Epidermis
Distribution/Geographical	89-001583
89-002285	Mucus
Morphology	89-001583
89-002285	Pharmacology
New Species	89-001583
89-002285	Techniques/Mucus
<i>Aplodinotus grunniens</i>	89-001583
Gill Parasites	Variation Studies
89-002391	89-001583
Life History/General	<i>Arothron hispidus</i>
89-002977	Foods/Feeding
Management/Research--Rivers and	89-003065
Streams	Management/Research--Marine
89-002977	89-003065
<i>Microcotyle spirocirus</i>	Reef Fish Communities
89-002391	89-003065
Parasites/Diseases	<i>Arothron meleagris</i>
89-002391	Foods/Feeding
Trematodes	89-003065
89-002391	Management/Research--Marine
Trophic Relationships	89-003065
89-002977	Reef Fish Communities
<i>Apogon pallidofasciatus</i>	89-003065
Distribution/Geographical	<i>Arripis trutta espei</i>
89-002241	Marking/Tagging
Morphology	89-002679
89-002241	<i>Astronotus ocellatus</i>
New Species	Brood Stock
89-002241	89-001397
<i>Apristurus</i>	Culture/Propagation
Reproduction	89-001397
89-001852	<i>Astyanax mexicanus</i>
Spawning	Evolution
89-001852	89-001561
<i>Aracana aurita</i>	Eyes
Toxins	89-001561
89-001688	Light
<i>Aracana ornata</i>	89-001561
Toxins	<i>Atheresthes evermanni</i>
89-001688	Body Form
<i>Aristichthys nobilis</i>	89-001578
Culture/Propagation	Eyes
89-001330	89-001578
89-001345	Gill Rakers
Hormones	89-001578
89-001330	Variation Studies
89-001345	89-001578
Induced Maturation	<i>Atheresthes stomias</i>
89-001330	Body Form
89-001345	89-001578
<i>Arius bilineatus</i>	Eyes
Epidermis	89-001578
89-001583	Gill Rakers
Mucus	89-001578
89-001583	Variation Studies
Pharmacology	89-001578
89-001583	<i>Atractoscion nobilis</i>
Techniques/Mucus	Pigments

89-002258
 Taxonomy
 89-002258
 Austrolabrus
 Distribution/Geographical
 89-002286
 Fish Lists/Keys
 89-002286
 Auxis thazard
 Thermoregulation
 89-001650
 Pagrus meridionalis
 Foods/Feeding
 89-001930
 Parental Behavior
 89-001980
 Barbus
 Fish Lists/Keys
 89-002288
 Morphology
 89-002288
 Morphometry
 89-001530
 Multivariate Analysis
 89-001530
 Taxonomy
 89-002288
 Variation Studies
 89-001530
 Zoogeography
 89-001530
 Barbus bocagei
 Distribution/Geographical
 89-002268
 Barbus haasi
 Distribution/Geographical
 89-002204
 Barbus meridionalis
 Variation Studies
 89-001865
 Zoogeography
 89-001865
 Barbus microcephalus
 Distribution/Geographical
 89-002205
 Barbus sharpeyi
 Abundance/Factors of
 89-002068
 Foods/Feeding
 89-002068
 Length-Weight Relationships
 89-002068
 Life History/General
 89-002068
 Mortality Rates
 89-002068
 Benthallbella dentata
 Pigmentation
 89-001740
 Vision
 89-001740
 Benthallbella infans
 Pigmentation
 89-001740

89-002271
 Blenniidae
 Foods/Feeding
 89-003083
 Reef Fish Communities
 89-003083
 Blennius pholis
 Anemia
 89-001800
 pH
 89-001800
 Salinity
 89-001800
 Urea
 89-001800
 Blicca bjoerkna
 Larval Identification
 89-002277
 Boleophthalmus boddarti
 Air Breathing
 89-001555
 Enzymes
 89-001723
 Gills
 89-001555
 Histology
 89-001555
 Lipid Metabolism
 89-001723
 Protein Metabolism
 89-001723
 Respiratory System
 89-001555
 Starvation
 89-001723
 Variation Studies
 89-001555
 Botia beauforti
 Distribution/Geographical
 89-002269
 Morphology
 89-002269
 Botia nigrolineata
 Distribution/Geographical
 89-002269
 Morphology
 89-002269
 New Species
 89-002269
 Botia rostrata
 Distribution/Geographical
 89-002269
 Morphology
 89-002269
 Botia supercilialis
 Distribution/Geographical
 89-002269
 Morphology
 89-002269
 Bovichtus oculus
 Distribution/Geographical
 89-002261
 Distribution/Vertical
 89-002261

Brachydanio rerio	89-001391	Bacterial Flora	89-002331
Chlorinated Benzenes	89-002506	Bactericides	89-002336
Brachyplatystoma vaillanti		Brain	89-001624
Brood Stock	89-001397	Calcium	89-001735
Culture/Propagation	89-001397	Calcium	89-001752
Brachyrrhaphis roseni		Calcium	89-001748
Distribution/Geographical	89-002248	Corpuscle of Stannius	89-001546
Meristic Studies	89-002248	Cytochrome	89-001637
Morphology	89-002248	Eggs	89-001695
New Species	89-002248	Endocrinology	89-001711
Brevortia patricius		89-001735	89-001748
Bioaccumulation	89-002522	89-001792	89-001515
Distribution/factors of	89-002896	89-001846	
Heavy Metals	89-002522	Fins	89-001543
Larvae	89-002896	Growth Hormone	89-001735
Larval Drift	89-002896	Heavy Metals	89-001752
Management/Research--Estuaries	89-002522	Hematology	89-001752
Management/Research--Rivers and		Histology	89-001543
Streams	89-002896	Hormones	89-001580
Mercury	89-002522	89-001711	89-001735
Pollution	89-002522	89-001748	89-001792
Bryconamericus scleroparius		Hypothalamic-Hypophysis	89-001748
Distribution/Geographical	89-002229	Immune Response	89-001735
Campostoma anomalum		Induced Maturation	89-001825
Defensive Behavior	89-001996	Lateral Line System	89-001563
Fertilization/Soil and Water	89-002170	Leucocyte Migration	89-001752
Foods/Feeding	89-001996	Maturation	89-001711
Predator/Prey Relationships	89-002170	Musculature	89-001543
Canthidermis maculatus		Nervous System	89-001563
Distribution/Geographical	89-002202	Otoliths	89-001608
Caranx georgianus		89-001748	
Marking/Tagging	89-002671	Crustacean	
Polymorphism	89-002671		
Stock Composition	89-002671		
Stock Identification	89-002671		
Carassius auratus			
Argemone californica			

Pituitary Gland
 89-001735
 89-001784
 89-001825
 Regeneration
 89-001608
 Reproduction
 89-001580
 Reproductive Cycle
 89-001711
 89-001515
 Reproductive System
 89-001792
 Scales
 89-001748
 Sodium
 89-001748
 Spawning
 89-001580
 Sterilization
 89-001711
 Steroids
 89-001711
 Swimming Performance
 89-001543
 Techniques/Embryology
 89-001695
 Techniques/Gene Transfer
 89-001695
 Techniques/Medication In Diets
 89-002331
 Temperature
 89-001624
 Treatment
 89-002331
 Ulcer Disease
 89-002311
 Variation Studies
 89-001543
 Vision
 89-001608
Carassius auratus auratus
 Kidney Disease
 89-002308
 Parasites/Diseases
 89-002308
 Protozoan Diseases
 89-002308
Sphaerospora renicola
 89-002308
Carassius auratus gibelio
 Gynogenesis
 89-001871
 Hybridization
 89-001871
 Induced Maturation
 89-001871
Carassius carassius
 Age/Growth
 89-002185
 Anoxia
 89-001762
 Brain
 89-001762

Carcharias leucas
 Attacks on Humans
 89-001933
 Life History/General
 89-001933
Carcharhinus melanopterus
Dermophthirius melanopteri
 89-002381
 Monogenea
 89-002381
 Parasites/Diseases
 89-002381
 Skin Lesions
 89-002381
 Trematodes
 89-002381
Carcharodon carcharias
 Attacks on Humans
 89-001933
 Life History/General
 89-001933
Careproctus griseldae
 Symbiosis
 89-001981
Catla catla
 Eggs
 89-001694
 Endocrinology
 89-001591
 89-001694
 Enzymes
 89-001694
 Hormones
 89-001591
 Reproductive Cycle
 89-001694
 Steroids
 89-001694
 Techniques/Hormones
 89-001591
Catostomus catostomus
Diplostomum baeri
 89-002385
Diplostomum spathaceum
 89-002385
 Parasites/Diseases
 89-002385
 Trematodes
 89-002385
 Vision
 89-002385
Catostomus clarki
 Foods/Feeding
 89-001937
 Interspecies Relationships
 89-001937
 Larval Drift
 89-002098
Catostomus commersoni
 Abnormalities
 89-002434
 Abundance/Factors of
 89-002239
 89-003063

89-002239	89-001445
Lining	Spawning Cycle Regulation
89-002800	89-001452
Management/Research--Lakes	Centropyge bicolor
89-002800	Aquariums
Management/Research--Reservoirs	89-001484
89-003033	Culture/Propagation
Mercury	89-001484
89-002434	Centropyge potteri
Parasites/Diseases	Currents
89-002403	89-002118
Population Studies	Reef Fish Communities
89-002800	89-002118
Skeletal System	Season
89-002434	89-002118
Catostomus fumeiventris	Spawning
Critical Habitat	89-002118
89-002603	Cephalopholis argus
Endangered/Threatened Species	Foods/Feeding/Selectivity
89-002603	89-002168
Management/Research--General	Management/Research--Marine
89-002603	89-002168
Catostomus insignis	Predator/Prey Relationships
Larval Drift	89-002168
89-002098	Reef Fish Communities
Catostomus latipinnis	89-002168
Foods/Feeding	Cephalopholis hemistiktos
89-001937	Foods/Feeding/Selectivity
Interspecies Relationships	89-002168
89-001937	Management/Research--Marine
Catostomus macrocheilus	89-002168
Predator/Prey Relationships	Predator/Prey Relationships
89-001995	89-002168
Catostomus plebeius	Reef Fish Communities
Abundance/Factors of	89-002168
89-002239	Cephalopholis miniata
Life History/General	Foods/Feeding/Selectivity
89-002239	89-002168
Catostomus tahoensis	Management/Research--Marine
Age/Growth	89-002168
89-002187	Predator/Prey Relationships
Food Conversion Efficiency	89-002168
89-002187	Reef Fish Communities
Foods/Feeding	89-002168
89-002187	Cepola rubescens
Temperature	Burrowing Behavior
89-002187	89-001774
Thermoregulation	Hematology
89-002187	89-001774
Caulolatilus cyanops	Hypercapnia
Distribution/Geographical	89-001774
89-002202	Hypoxia
Centrarchidae	89-001774
Predator/Prey Relationships	Oxygen
89-002005	89-001774
Centroberyx australis	pH
Distribution/Geographical	89-001774
89-002287	Respiratory System
Morphology	89-001774
89-002287	Chaenocephalus aceratus
New Species	Metabolism
89-002287	89-001590
Centropomus undecimalis	Chaenopsidae
Culture/Propagation	Foods/Feeding
89-002287	89-002005

Chelodactylus	89-002330
Currents	Pond Culture
89-002118	89-001396
Reef Fish Communities	Production
89-002118	89-001432
Season	Salinity
89-002118	89-001825
Spawning	Spawning
89-002118	89-001785
Channa gachua	89-001831
Age/Growth	Storage Effects
89-001465	89-003165
Culture/Propagation	Taste and Odor Problems
89-001465	89-003165
Feeding Experiments	Vibrio anguillarum
89-001465	89-002330
Food Conversion Efficiency	Vibriosis
89-001465	89-002330
Channa maculata	Chasmistes cujus
Prustaglandins	Habitat Alterations
89-001850	89-002766
Channa punctatus	Life History/General
Alkyl Benzene Sulfonate	89-002765
89-002500	Modeling
Carbaryl	89-002766
89-002537	Population Studies
Detergents	89-002766
89-002560	Chasmistes liorus
Endocrinology	Endangered/Threatened Species
89-001591	89-003202
89-002537	Chelilinus
Enzymes	Head
89-002537	89-001577
Hormones	Jaws
89-001591	89-001577
Parasites/Diseases	Mouth Parts
89-002254	89-001577
Pesticides	Musculature
89-002537	89-001577
Phenothoate	Chelodactylus macropterus
89-002537	Marking/Tagging
Techniques/Hormones	89-002671
89-001591	Polymorphism
Tumors	89-002671
89-002394	Stock Composition
Chanos chanos	89-002671
Bacterial Diseases	Stock Identification
89-002330	89-002671
Bioenergetics	Chelodactylus pulcher
89-001826	Light
Brackishwater Culture	89-001973
89-001396	Phototropism
89-001432	89-001973
Culture/Propagation	Swimming Performance
89-001396	89-001973
89-001432	Chelon labrosus
89-001736	Biosorption
89-001786	89-002514
89-001831	Calcitonin
Fertilization/Soil and Water	89-001677
89-001396	Calcium
Fry Production	89-001677
89-001432	Heavy Metals
Hormones	89-002514
89-001396	

Cichla
 Chromosome Studies
 89-001918
 Chiloscylidium plagiosum
 Foods/Feeding
 89-002020
 Chlorophthalmus agassissi
 Biochemical Composition
 89-001750
 Fish as Food
 89-001750
 Proteins
 89-001750
 Choerodon cauteroma
 Distribution/Geographical
 89-002256
 Morphology
 89-002256
 New Species
 89-002256
 Choerodon suillatum
 Distribution/Geographical
 89-002260
 Morphology
 89-002260
 New Species
 89-002260
 Taxonomy
 89-002260
 Chondrostoma polylepis polylepis
 Distribution/Geographical
 89-002266
 Chondrostoma polylepis willkommii
 Distribution/Geographical
 89-002206
 Chromis alpha
 Distribution/Geographical
 89-002282
 Morphology
 89-002282
 New Species
 89-002282
 Chromis caudalis
 Distribution/Geographical
 89-002282
 Morphology
 89-002282
 New Species
 89-002282
 Chromis delta
 Distribution/Geographical
 89-002282
 Morphology
 89-002282
 New Species
 89-002282
 Chrysophrys auratus
 Otoliths
 89-003175
 Stock Identification
 89-003175
 Cichla
 Taxonomy
 89-002291
 Cichla ocellaris
 Population Studies
 89-002951
 Cichla temensis
 Abundance/Factors of
 89-002951
 Commercial Fishing
 89-002951
 Management/Research--River
 Streams
 89-002951
 Population Studies
 89-002951
 Cichlasoma
 Aquariums
 89-001478
 Culture/Propagation
 89-001478
 Hardness
 89-001478
 Hybridization
 89-001478
 Techniques/Water Quality
 89-001478
 Water Quality
 89-001478
 Zoogeography
 89-002222
 Cichlasoma nicaraguense
 Distribution/Geographical
 89-002229
 Cichlasoma nigrofasciatum
 Heavy Metals
 89-002512
 Interspecies Relationships
 89-002013
 Mercury
 89-002512
 Methylmercury
 89-002512
 Reproduction
 89-002013
 Cichlasoma urophthalmus
 Cage Culture
 89-001403
 Culture/Propagation
 89-001403
 Diets
 89-001403
 Food Conversion Efficiency
 89-001403
 Rearing Density
 89-001403
 Cichlidae
 Aquariums
 89-001480
 Culture/Propagation
 89-001480
 DNA
 89-001902
 Evolution
 89-001902
 Genetic Divergence

89-002360
 Culture/Propagation
 89-001354
 89-001426
 Egg Production
 89-001354
 Endocrinology
 89-001821
 Hormones
 89-001821
 Immune Response
 89-001821
 Incubation
 89-001354
 Induced Maturation
 89-001354
 Olfaction
 89-001821
 Parasites/Diseases
 89-002360
 Pituitary Gland
 89-001821
 Viral Diseases
 89-002360
Clarias fuscus
 Culture/Propagation
 89-001426
Clarias gariepinus
 Age/Growth
 89-001648
 Biochemical Composition
 89-001647
 Channel Catfish Virus
 89-002360
 Courtship
 89-001840
 Culture/Propagation
 89-001460
 89-001461
 89-001487
 89-001647
 Diets
 89-001460
 Electrical Guiding Systems
 89-001487
 Endocrinology
 89-001644
 Feeding Experiments
 89-001460
 89-001461
 Feeds
 89-001461
 Fingerling Production
 89-001460
 Food Conversion Efficiency
 89-001460
 Foods/Feeding
 89-001648
 Hormones
 89-001644
 Larvae
 89-001487
 Maturation
 89-001840

Reproductive System
 89-001840
 Tank Culture
 89-001487
 Techniques/Water Quality
 89-001487
 Temperature
 89-001461
 89-001648
 Viral Diseases
 89-002360
Clarias ishleriensis
 Culture/Propagation
 89-001402
 Fingerling Production
 89-001402
 Pond Culture
 89-001402
Clarias lazera
 Culture/Propagation
 89-001426
Clarias macrocephalus
 Culture/Propagation
 89-001330
 Hormones
 89-001330
 Induced Maturation
 89-001330
 Clinidae
 Taxonomy
 89-002290
Clupea harengus
 Angler Surveys
 89-003095
 Catch Per Unit Effort
 89-003095
 Distribution/Seasonal
 89-002126
 Distribution/Vertical
 89-002134
 Diurnal Rhythm
 89-002134
 Early Development
 89-002478
 Egg Survival
 89-002478
 Fertilization
 89-001793
 Foods/Feeding
 89-001972
 Harvest
 89-002657
 89-003095
 Heat Exchangers
 89-001972
 Histology
 89-002478
 Larval Behavior
 89-002134
 89-002160
 Larval Drift
 89-002134
 Life History/General
 89-002160

89-001793
 Survival
 89-002478
 Temperature
 89-001972
Clupea harengus harengus
 Age/Length Composition
 89-002115
 Commercial Fishing
 89-003050
 Economic Values
 89-003050
 Fecundity
 89-002115
 Gonosomatic Index
 89-002119
 Harvest
 89-003050
 Life History/General
 89-002115
 Marketing
 89-003050
 Maturation
 89-001819
 Season
 89-002115
 Spawning
 89-002115
 Variation Studies
 89-002115
Clupea harengus tomba
 Egg Survival
 89-002121
 Spawning
 89-002121
 Spawning Substrates
 89-002121
Clupea harengus pallasi
 Fecundity
 89-001693
 Gonosomatic Index
 89-001693
 Life History/General
 89-002095
 89-002095
 Mortality Rates
 89-001693
 Reproduction
 89-001693
Cocotropus larvatus
 Distribution/Geographical
 89-002280
 Morphology
 89-002280
 New Species
 89-002280
Collis fasciatus
 Cytology
 89-001564
 Histology
 89-001564
 Pituitary Gland
 89-001564
Collis lalla
 Age/Growth
 89-002188
 Distribution/Geographical
 89-002236
 Zoogeography
 89-002188
Colossoma macropomum
 Abundance/Factors of
 89-002951
 Commercial Fishing
 89-002951
 Management/Research--River
 Streams
 89-002951
 Population Studies
 89-002951
Conger myriaster
 Mucus
 89-001811
 Proteins
 89-001811
 Techniques/Proteins
 89-001811
Conger oceanicus
 Age/Growth
 89-002054
 Habitat Selection
 89-002054
 Life History/General
 89-002054
 Reproduction
 89-002054
Coregonus
 Predator/Prey Relationships
 89-002807
 Stocking/Introductions
 89-002807
 Zooplankton
 89-002807
Coregonus alba
 Age/Growth
 89-001749
 Distribution/Seasonal
 89-001941
 Enzymes
 89-002515
 Fatty Acids
 89-001749
 Foods/Feeding
 89-001749
 Lipid Composition
 89-001749
 Lipid Metabolism
 89-001749
 Liver
 89-002515
 Migration
 89-001941
 Musculature
 89-001749
 Pollution
 89-002523
 Pulp Mill Effluents
 89-002523

89-001391	89-001070
<i>Coregonus autumnalis</i>	Stock Assessment
Catch Per Unit Effort	89-002911
89-002746	Tank Culture
Causeways	89-001398
89-002630	<i>Coregonus pallasi</i>
Commercial Fishing	Marking/Tagging
89-002746	89-002673
Distribution/Geographical	<i>Coregonus peled</i>
89-002630	Heterozygosity
89-002771	89-001862
DNA	Marking/Tagging
89-001867	89-002673
Electrophoresis	Population Genetics
89-001867	89-001862
Environmental Factors	Proteins
89-002771	89-001862
Habitat Selection	<i>Coregonus sardinella</i>
89-002630	Causeways
89-002771	89-002630
Harvest	Distribution/Geographical
89-002746	89-002630
Movements	Habitat Selection
89-002630	89-002630
Population Genetics	Movements
89-001867	89-002630
Population Studies	<i>Coryphaena hippurus</i>
89-002105	Abundance/Factors of
89-002746	89-002659
Recruitment	Harvest
89-002105	89-002659
<i>Coregonus clupeaformis</i>	Life History/General
Age/Growth	89-002659
89-001843	<i>Coryphaenoides brevibarbis</i>
Histology	Abnormalities
89-001534	89-001558
Musculature	Dentition
89-001534	89-001558
89-001843	<i>Coryphaenoides carapinus</i>
<i>Coregonus fera</i>	Abnormalities
Digestive System	89-001558
89-001726	Dentition
Early Development	89-001558
89-001726	<i>Coryphaenoides mediterranea</i>
Histology	Abnormalities
89-001726	89-001558
<i>Coregonus laurettae</i>	Dentition
Distribution/Geographical	89-001558
89-002201	<i>Coryphaenoides rupestris</i>
<i>Coregonus lavaretus</i>	Length-Weight Relationships
Commercial Fishing	89-002176
89-002827	Zoogeography
Culture/Propagation	89-002176
89-001398	Cottidae
Exploitation Rates	Competition
89-002827	89-001990
Feeds	Habitat Selection
89-001398	89-001990
Flow Regimes	Interspecies Relationships
89-002911	89-001990
Gear Selectivity	<i>Cottus bairdi</i>
89-002827	Distribution/Vertical
Hermaphroditism	89-001945
89-001616	Intraspecies Relationships

<i>Cottus cognatus</i>	89-002046
Distribution/Geographical	89-002084
89-002079	Biochemical Composition
Life History/General	89-001459
89-002079	Culture/Propagation
Meristic Studies	89-001317
89-002079	89-001459
Species Identification	89-002046
89-002079	89-002348
<i>Cottus confusus</i>	Disease-Free Culture
Distribution/Geographical	89-002348
89-002079	Electrophoresis
Life History/General	89-001856
89-002079	Enzymes
Meristic Studies	89-001866
89-002079	Fatty Acids
Species Identification	89-001459
89-002079	Feeding Experiments
<i>Cottus gobio</i>	89-001459
Cannibalism	Feeds
89-001974	89-001459
Egg Predation	Food Conversion Efficiency
89-001974	89-001459
Fecundity	Genetic Divergence
89-001974	89-001866
Mate Selection	Hormones
89-001974	89-001317
Parental Behavior	Hybridization
89-001974	89-002046
Predator/Prey Relationships	Induced Maturation
89-001948	89-001317
Reproduction	Life History/General
89-001974	89-002046
<i>Cottus hangiangensis</i>	89-002084
Gonads	Lipid Content
89-001788	89-001459
Reproductive Cycle	Management/Research--R
89-001788	Streams
Sperm	89-002130
89-001788	Marking/Tagging
<i>Cottus ricei</i>	89-002130
Distribution/Geographical	Movements
89-002079	89-002130
Life History/General	Parasites/Diseases
89-002079	89-002348
Meristic Studies	Ploidy Levels
89-002079	89-001869
Species Identification	Pond Culture
89-002079	89-002046
<i>Crapatalus munroi</i>	89-002348
Distribution/Geographical	Protozoan Diseases
89-002273	89-002348
Morphology	Sense Organs
89-002273	89-001459
New Species	Spawning Cycle Regulation
89-002273	89-001317
<i>Crenichthys baileyi grandis</i>	Toxins
Endangered/Threatened Species	89-001627
89-002013	Triploid Fish
Interspecies Relationships	89-001869
89-002013	Cubanichthys
Life History/General	Zoogeography
89-002082	89-002222
Reproduction	89-002222
89-002013	89-002222

Cynolebias	Cynolebias
Eggs	Eggs
89-001621	89-002200
Embryology	Taxonomy
89-001621	89-002293
Cynoscion arenarius	Cynoscion arenarius
Commercial Fishing	Taxonomy
89-002088	89-002297
Lagoons	Cynoscion arenarius
89-002088	Taxonomy
Life History/General	89-002293
89-002088	Cynoscion arenarius
Management/Research--Estuaries	Population Studies
89-002088	89-001967
Management/Research--Marine	Spawning
89-002088	89-001967
Nursery Areas	Cynoscion radiatus
89-002088	Critical Habitat
Cynoscion nebulosus	89-002603
Hormones	Endangered/Threatened Sp
89-001813	89-002603
Induced Maturation	Management/Research--Gen
89-001772	89-002603
Pituitary Gland	Cynoscion variegatus
89-001635	Aggressive Behavior
Reproduction	89-001929
89-001612	89-001940
89-001772	Foods/Feeding
89-001813	89-001944
Steroids	Hormones
89-001635	89-001940
89-001772	Learning
Cynoscion nothus	89-001929
Coastal Habitat	Light
89-002087	89-001944
Life History/General	Osmoregulation
89-002087	89-001696
Management/Research--Marine	Oxygen
89-002087	89-001696
Cyprinidae	Salinity
Commercial Fishing	89-001696
89-003007	Social Behavior
Digestive System	89-001940
89-001546	Testosterone
Exploitation Rates	89-001940
89-003007	Cyprinus carpio
Harvest	Actomyosins
89-003007	89-001755
Histology	Age/Growth
89-001569	89-001407
Management/Research--Reservoirs	89-001421
89-003007	89-001818
Musculature	Anoxia
89-001569	89-001762
Nets/Gill Nets	Atrazine
89-003007	89-002420
Variation Studies	Bacterial Diseases
89-001546	89-002312
Zoogeography	Bioaccumulation
89-001546	89-002420
Cyprinodon	Biochemical Composition
Zoogeography	89-001472
89-002222	Biosorption
	89-002508

Collagen	89-001595
89-001799	Hybrid Identification
Culture/Propagation	89-001863
89-001337	Hybridization
89-001407	89-001871
89-001416	Hydraulic Models
89-001419	89-002736
89-001421	Hydrodynamics
89-001427	89-002736
89-001472	Immune Response
89-001487	89-001824
89-001494	89-001912
89-001595	89-002312
89-002348	Induced Maturation
89-002400	89-001871
Cytology	Ion Transport
89-001738	89-002549
DCI	Kidney Disease
89-002545	89-002308
Diets	Kidneys
89-001416	89-001824
Disease-Free Culture	Laboratory Ecosystems
89-002348	89-002545
89-002400	Larvae
DNA	89-001487
89-001863	Larval Behavior
Drugs	89-002736
89-001738	Larval Rearing
Economic Values	89-001421
89-001337	Leucocyte Migration
Electrical Guiding Systems	89-001824
89-001487	Manganese
Environmental Factors	89-002312
89-001951	Maturation
Enzymes	89-002509
89-001659	Metabolism
89-001754	89-001702
89-001755	89-001762
Evolution	Migration
89-001912	89-001951
Exercise	Modeling
89-001857	89-002420
Feeding Experiments	89-002736
89-001419	Musculature
Feeds	89-001754
89-001472	89-001755
Food Conversion Efficiency	89-001799
89-001419	Mutations
89-001472	89-001905
Foods/Feeding	Nitrite
89-002736	89-002549
Forage Production	Organics
89-001407	89-002420
Genetic Strains	Parasites/Diseases
89-001863	89-001824
Glucose	89-001912
89-001702	89-002308
Growth Stimulants	89-002312
89-001494	89-002348
89-001812	89-002352
Gynogenesis	89-002400
89-001871	PCDD
Hematology	89-002508
89-001700	PCDF

89-001419	89-002274
89-001427	<i>Dasyatis filamentosus</i>
89-002348	Aquariums
Population Genetics	89-001482
89-001905	Culture/Propagation
Predator/Prey Relationships	89-001482
89-002736	Life History/General
Production	89-001482
89-001421	Reproduction
Protozoan Diseases	89-001482
89-002308	<i>Dicentrarchus labrax</i>
89-002348	Age/Growth
89-002352	89-001444
Rearing Density	89-001451
89-001407	89-001822
89-001416	89-002103
Reproduction	Commercial Fishing
89-001580	89-001431
89-001593	89-003033
<i>Sanguinicola inermis</i>	Culture/Propagation
89-002400	89-001431
Serotonin	89-001436
89-001762	89-001439
Spawning	89-001444
89-001580	89-001449
89-001593	89-001451
<i>Sphaerospora renicola</i>	Diets
89-002308	89-001449
89-002352	Distribution/Geographical
Spleen	89-001431
89-001857	Early Development
Sterilization	89-001822
89-001494	Egg Quality
89-001595	89-001436
Sulfides	Endocrinology
89-002509	89-001745
Swimbladder Disease	Feeding Experiments
89-002352	89-001449
Tank Culture	Gear Selectivity
89-001419	89-003033
89-001487	Harvest
Techniques	89-003033
89-002545	Hormones
Techniques/Enzymes	89-001592
89-001754	89-001745
Techniques/Sterilization	Immune Response
89-001494	89-001745
89-001595	Incubation
Techniques/Water Quality	89-001436
89-001487	Incubators
Temperature	89-001436
89-001472	Larvae
Thermal Pollution	89-001822
89-001951	Life History/General
Treatment	89-001431
89-002400	Longlines
Trematodes	89-003033
89-002400	Management/Research--Mar
Water Quality	89-003033
89-001416	Maturation
	89-001708
	Mortality Factors
	89-001436
	Nervous System
	89-003033

...CONTINUED...

Dicentrarchus labrax
 Nets/General
 89-003033
 Parasites/Diseases
 89-001439
 Peptides
 89-001745
 Photoperiodism
 89-001592
 Production
 89-002103
 Reproduction
 89-001592
 Stock Assessment
 89-003033
 Temperature
 89-001592
Microlele nigr
Brachiathektia labulata
 89-002396
 Gill Parasites
 89-002396
 Parasites/Diseases
 89-002396
 Parasitic Copepods
 89-002396
Diodon holocanthus
 Epidermis
 89-001526
Diplodus sargus
 Techniques/Sperm Concentration
 89-001663
Dolichopteryx
 Pigmentation
 89-001740
 Vision
 89-001740
Dorosoma cepedianum
 Abundance/Factors of
 89-002238
 Aquariums
 89-001485
 Culture/Propagation
 89-001485
 Food Digestibility
 89-002161
 Foods/Feeding
 89-001923
 Foods/Feeding/Selectivity
 89-002161
 Harvest
 89-002238
 Larvae
 89-001485
 Management/Research--Lakes
 89-002238
 Population Studies
 89-002238
 Predator/Prey Relationships
 89-001923
 89-002012

...CONTINUED...

Dorosoma petenense
 Population Studies
 89-002238
 Predator/Prey Relationships
 89-001923
 Stock Assessment
 89-002238
 Trophic Relationships
 89-001923
Otolabrus
 Distribution/Geographical
 89-002286
 Fish Lists/Keys
 89-002286
Ecserius
 Distribution/Geographical
 89-002226
 Fish Lists/Keys
 89-002226
Eigenmannia
 Electric Organs
 89-001860
 Maturation
 89-001860
Embiotoca jacksoni
 Sibling Recognition
 89-002006
Emblemaria atlantica
 Distribution/Geographical
 89-002202
Engraulis capensis
 Biomass
 89-002024
 Egg Production
 89-002024
 Food Supply
 89-001962
 Foods/Feeding/Selectivity
 89-001962
 Life History/General
 89-002024
 Production
 89-002024
Engraulis encrasicolus
 Heterozygosity
 89-001891
 Population Genetics
 89-001891
Engraulis japonica
 Age/Growth
 89-002180
 Larval Behavior
 89-002180
 Life History/General
 89-002180
Engraulis mordax
 Abundance/Factors of
 89-002236
 89-002748
 89-002779

Chelodactylus chaetodon
 Aquariums
 89-002078
 Culture/Propagation
 89-002078
 Distribution/Factors of
 89-002078
 Habitat Selection
 89-002078
 Life History/General
 89-002078
Entosphenus japonicus
 Abnormalities
 89-001706
 Collagen
 89-001799
 Hematology
 89-001706
 Musculature
 89-001799
 Temperature
 89-001706
Epinephelus fario
 Culture/Propagation
 89-001714
 Induced Maturation
 89-001714
 Sex Reversal
 89-001714
 Spawning
 89-001714
Epinephelus fulvus
 Ciguatera
 89-002490
 Dinoflagellates
 89-002490
 Distribution/Geographical
 89-002202
 Parasites/Diseases
 89-002490
Epinephelus inermis
 Distribution/Geographical
 89-002202
Epinephelus morio
 Abundance/Factors of
 89-002234
 Exploitation Rates
 89-002656
 Harvest
 89-002656
 Larvae
 89-002234
 Larval Behavior
 89-002234
 Stock Assessment
 89-002656
 Temperature
 89-002234
Epinnula orientalis
 Biochemical Composition
 89-001750
 Fish as Food
 89-001750
 Proteins
 89-001750
Esox americanus
 Flood Plains
 89-002920
 Habitat Selection
 89-002920
 Water Level Fluctuations
 89-002920
Esox lucius
 Acoustical Methods
 89-003187
 Activity Patterns
 89-002124
 Bioenergetics
 89-001678
 Biomass
 89-002136
 Culture/Propagation
 89-001417
 Economics
 89-001417
 Eggs
 89-001695
 Fingerling Production
 89-001417
 Fish Stocks
 89-002561
 Gas Supersaturation
 89-002453
 Habitat Selection
 89-002124
 Hydroelectric Developments
 89-002453
 Management/Research--Reser
 89-002681
 89-003187
 Marking/Tagging
 89-002124
 Mortality Factors
 89-002453
 Movements
 89-002124
 Oxygen
 89-001678
 Parasites/Diseases
 89-002404
 Pond Culture
 89-001417
 Population Studies
 89-003187
 Power Plants
 89-002453
 Predator Introductions
 89-002681
 Predator/Prey Relationships
 89-002136
 89-002681
 Reservoir Release Effects
 89-002453
 Rhythmicity
 89-002124
 Spawning Techniques
 89-001417
 Stock Assessment
 89-003187

...CONTINUED...

Esox lucius
 Trophic Relationships
 89-002136
 89-002681
 Tumors
 89-002404
Esox masquinongy
 Fish Stocks
 89-002561
 Stocking/Introductions
 89-002561
Etiopius suratensis
Ergasilus ceylonensis
 89-002407
 Formalin
 89-002407
 Gill Parasites
 89-002407
 Parasites/Diseases
 89-002407
 Parasitic Copepods
 89-002407
 Potassium Permanganate
 89-002407
 Storage Effects
 89-003165
 Taste and Odor Problems
 89-003165
 Treatment
 89-002407
Eubalichthys cyanoura
 Distribution/Geographical
 89-002264
 Morphology
 89-002264
 New Species
 89-002264
Eugerres plumieri
 Eyes
 89-001781
 Hematology
 89-001781
 Osmoregulation
 89-001781
 Salinity
 89-001781
Euglyphis taurus
 Attacks on Humans
 89-001933
 Life History/General
 89-001933
Eupetrichthys
 Distribution/Geographical
 89-002286
 Fish Lists/Keys
 89-002286
Euthynnus lineatus
 Musculature
 89-001649
 Thermoregulation

...CONTINUED...

Euthynnus pelamis
 Harvest
 89-002609
 89-003091
 Management/Research
 89-003091
 Marking/Tagging
 89-002672
 Musculature
 89-001797
 Nets/Purse Seines
 89-002699
 Osmoregulation
 89-001797
 Salinity
 89-001797
 Temperature
 89-001797
 Thermoregulation
 89-001650
Eutrigla gurnardus
 Condition Factors
 89-002725
Fugu niphobles
 Ichthyotoxin
 89-001809
 Toxins
 89-001809
Fundulus heteroclitus
 Age/Growth
 89-001789
 Circadian Rhythms
 89-002002
 Early Development
 89-002472
 Endocrinology
 89-001778
 Hormones
 89-001777
 Operculum
 89-002002
 Otoliths
 89-001789
 Pituitary Gland
 89-001725
 Pollution Tolerance
 89-002472
 Reproductive System
 89-001778
 Steroids
 89-001725
 89-001777
 89-001778
 Temperature
 89-001789
 Variation Studies
 89-002472
Fundulus majalis
 Nursery Areas
 89-002140

89-002278	89-002116
Gadus macrocephalus	Spawning Techniques
Fecundity	89-002116
89-001693	Stock Assessment
Gonosomatic Index	89-001872
89-001693	Stock Identification
Interspecies Relationships	89-001872
89-002153	Swimming Performance
Mortality Rates	89-001618
89-001693	Techniques/Hormones
Predator/Prey Relationships	89-001790
89-002153	Galaxias
Reproduction	Coloration
89-001693	89-001529
Temperature	Variation Studies
89-002153	89-001529
Trophic Relationships	Galaxias argenteus
89-002153	Management/Research--Rivers a
Gadus morhua	Streams
Age/Growth	89-002250
89-001525	Galaxias brevipinnis
Angler Surveys	Management/Research--Rivers a
89-003095	Streams
Catch Per Unit Effort	89-002250
89-003095	Galaxias fasciatus
Catecholamines	Management/Research--Rivers a
89-001618	Streams
Condition Factors	89-002250
89-002116	Galaxias maculatus
Culture/Propagation	Management/Research--Rivers a
89-002116	Streams
DNA	89-002250
89-001913	Galeocerdo cuvier
Early Development	Attacks on Humans
89-001525	89-001933
Endocrinology	Life History/General
89-001790	89-001933
Exercise	Gambusia
89-001589	Predator/Prey Relationships
Fecundity	89-001987
89-002116	Taxonomy
Fish Behavior	89-002283
89-002693	Zoogeography
89-002694	89-002283
Fishing Gear	Gambusia affinis
89-002693	Dams
Gear Efficiency	89-001875
89-002693	Hybridization
89-002694	89-001875
Growth Hormone	Management/Research--General
89-001790	89-002551
Harvest	Modeling
89-003095	89-002767
Hematology	Mosquito Control
89-001589	89-002551
Life History/General	Predator/Prey Relationships
89-002116	89-002767
Management/Research--Marine	Rice Paddies
89-001872	89-002551
89-003095	Gambusia affinis affinis
Modeling	Masculinization
89-002693	89-001545
Nets/Gill Nets	Sterols
89-002693	89-001545

Gambusia holbrooki
 Distribution/Geographical
 89-002066
 Life History/General
 89-002066
 Population Studies
 89-002066
Gambusia nigrarugens
 Zoogeography
 89-002222
Gambusia punctata
 Zoogeography
 89-002222
Gambusia puncticulata
 Zoogeography
 89-002222
Gambusia
 Chemical Reclamation
 89-002527
 Toxic Plants
 89-002527
Gasterosteus aculeatus
 Age/Growth
 89-002172
 Aggressive Behavior
 89-001943
 Bird Predation
 89-002015
 Cannibalism
 89-001959
 Coloration
 89-001565
 Culture/Propagation
 89-002096
 Early Development
 89-002077
 Egg Predation
 89-001959
 Endocrinology
 89-001603
 Escape Behavior
 89-002015
 Evolution
 89-001565
 89-001914
 Foods/Feeding/Selectivity
 89-001960
 89-002172
 Fright Behavior
 89-002015
 Fry Production
 89-002096
Gambusia aculeatus
 89-002346
 Hormones
 89-001586
 Kin Recognition
 89-002015
 Larvae
 89-002096
 Life History/General
 89-001914
 89-002036
 89-002077

Gasterosteus aculeatus
 Protozoan Diseases
 89-002346
 Reproductive Cycle
 89-001603
 Reproductive System
 89-001603
 Salinity
 89-002077
 Spawning Behavior
 89-002015
 Sperm
 89-001586
 Steroids
 89-001603
 Temperature
 89-001943
 89-002077
 Water Level Fluctuations
 89-002077
Gasterosteus wheatlandi
 Aggressive Behavior
 89-001943
 Culture/Propagation
 89-002096
 Early Development
 89-002077
 Fry Production
 89-002096
 Larvae
 89-002096
 Life History/General
 89-002077
 89-002096
 Oxygen
 89-002077
 Salinity
 89-002077
 Temperature
 89-001943
 89-002077
 Water Level Fluctuations
 89-002077
Gambusia novaezelandiae
 Bile
 89-001611
 Camouflage
 89-001611
 Coloration
 89-001611
 Pigments
 89-001611
Gambusia lineatus
 Distribution/Vertical
 89-001961
 Foods/Feeding
 89-001961
 Trace Metals
 89-002547
Gambusia australis
 Management/Research--River
 Streams
 89-002250
Gambusia atraria

89-002603
Gila bicolor mohavensis
 Endangered/Threatened Species
 89-003201
 Survival
 89-003201
Gila bandana
 Abundance/Factors of
 89-002239
 Life History/General
 89-002239
Gila robusta
 Foods/Feeding
 89-001937
 Interspecies Relationships
 89-001937
Gila robusta serinoda
 Endangered/Threatened Species
 89-002508
 Flow Regimes
 89-002508
 Life History/General
 89-002508
 Management/Research--Rivers and
 Streams
 89-002508
Gillichthys mirabilis
 Detoxification
 89-002477
 Sulfides
 89-002477
Gillichthys falcatus
 Meristic Studies
 89-001523
 Morphometry
 89-001523
 Reproductive System
 89-001523
 Sexual Dimorphism
 89-001523
Gillichthys uniolatus
 Meristic Studies
 89-001523
 Morphometry
 89-001523
 Reproductive System
 89-001523
 Sexual Dimorphism
 89-001523
Glyptocephalus cynoglossus
Haemaphys cyclopteryna
 89-002378
 Parasites/Diseases
 89-002378
 Parasitic Copepods
 89-002378
Glyptocephalus zachirus
 Lateral Line System
 89-001576
 Polymorphism
 89-001576
 Gobiidae
 Body Form
 89-002375
 Distribution/Factors of
 89-002207
 89-002375
 Distribution/Geographical
 89-002207
 Egg Drift
 89-002125
 Larval Drift
 89-002125
 Life History/General
 89-002125
 Ligula intestinalis
 89-002375
 Parasites/Diseases
 89-002375
 Population Studies
 89-002375
Gobionomphalus huttoni
 Management/Research--River
 Streams
 89-002250
Gobiosoma dormitor
 Distribution/Geographical
 89-002230
 Zoogeography
 89-002230
Haemulon aurolineatum
 Artificial Reefs
 89-003036
 Foods/Feeding
 89-001574
 Habitat Selection
 89-003036
 Management/Research--Marine
 89-003036
 Musculature
 89-001574
 Pharyngeal Teeth
 89-001574
Haemulon plumieri
 Artificial Reefs
 89-003036
 Foods/Feeding
 89-001574
 Habitat Selection
 89-003036
 Management/Research--Marine
 89-003036
 Musculature
 89-001574
 Pharyngeal Teeth
 89-001574
Haemulon sciurus
 Foods/Feeding
 89-001574
 Musculature
 89-001574
 Pharyngeal Teeth
 89-001574
 Hemichromis
 Chromosome Studies
 89-001918
Hemiramphus balao

Foods/Feeding
 89-002020
Hippoglossoides elassacion
 Corpuscle of Stannius
 89-001846
 Endocrinology
 89-001846
Hippoglossus hippoglossus
 Age/Growth
 89-001602
 Carbohydrate Metabolism
 89-001657
 Ectoparasites
 89-002401
 Egg Size
 89-001653
Entobdella hippoglossi
 89-002401
 Fecundity
 89-001699
 Gynogenesis
 89-001699
Lepeophtheirus hippoglossi
 89-002401
 Life History/General
 89-002128
 Light
 89-001602
 Marking/Tagging
 89-002127
 89-002128
 Migration
 89-002128
 Movements
 89-002127
 89-002128
 Parasites/Diseases
 89-002401
 Parasitic Copepods
 89-002401
 Protein Metabolism
 89-001687
 Temperature
 89-001602
 Trematodes
 89-002401
Udonella caligorum
 89-002401
Hippoglossus stenolepis
 Commercial Fishing
 89-002071
 Life History/General
 89-002071
 89-002095
 Population Studies
 89-002071
Holacanthus tricolor
 Foods/Feeding
 89-002149
 Morphology
 89-002149
Holanthias martinicensis
 Distribution/Geographical
 89-002202

Collagen
 89-001799
 Hybridization
 89-001799
 Musculature
 89-001799
Hybognathus hankinsoni
 Distribution/Geographical
 89-002211
Hydrolagus colliei
 Biochemical Composition
 89-001634
 Endocrinology
 89-001634
 Head
 89-001528
 Hormones
 89-001728
 Insulin
 89-001634
 Jaws
 89-001528
 Mouth Parts
 89-001528
 Peptides
 89-001634
 89-001728
 Sexual Dimorphism
 89-001728
Hypophthalmichthys molitrix
 Age/Growth
 89-001407
 Bacterial Flora
 89-001701
 Culture/Propagation
 89-001330
 89-001337
 89-001345
 89-001407
 89-001701
 Economic Values
 89-001337
 Enzymes
 89-001907
 Feeding Experiments
 89-001701
 Feeds
 89-001701
 Forage Production
 89-001407
 Hormones
 89-001330
 89-001345
 Induced Maturation
 89-001330
 89-001345
 Lactate Dehydrogenase
 89-001907
 Polyculture
 89-001407
 Polymorphism
 89-001907
 Pond Culture
 89-001407

89-002046	Net-Pen Culture
Culture/Propagation	89-002595
89-002046	Pollution
Hybridization	89-002522
89-002046	Two-Story Fisheries
Life History/General	89-002595
89-002046	Ictalurus melas
Pond Culture	Coal Liquid
89-002046	89-001951
Hypostomus	Environmental Factors
Parasites/Diseases	89-001951
89-002349	Gills
89-002355	89-001656
Protozoan Diseases	Migration
89-002349	89-001951
89-002355	Nervous System
Trypanosoma itoi	89-001656
89-002355	Thermal Pollution
Trypanosoma pintoi	89-001951
89-002349	Ictalurus nebulosus
Trypanosoma strigaticeps	Acidification
89-002355	89-002800
Hypoclinemus invemar	Chlamydia
Distribution/Geographical	89-002342
89-002202	Copper
Ichthyomyzon fossor	89-002481
Distribution/Geographical	Epitheliocystis
89-002194	89-002342
Life History/General	Heavy Metals
89-002194	89-002481
Microhabitat	Histology
89-002194	89-002481
Ichthyomyzon gagei	Liming
Distribution/Geographical	89-002800
89-002194	Management/Research--Lakes
Life History/General	89-002800
89-002194	Parasites/Diseases
Microhabitat	89-002342
89-002194	Population Studies
Ichthyomyzon unicuspis	89-002800
Pineal Body	Protozoan Diseases
89-001562	89-002342
Techniques/Tissue Staining	Ictalurus punctatus
89-001562	Abundance/Factors of
Ictalurus	89-002991
Ammonia	Aeration
89-001422	89-001284
Biofiltration	Age/Growth
89-001422	89-001408
Culture/Propagation	89-002085
89-001422	Ambiphrya ameuri
Gas Removal	89-002351
89-001422	Apiosoma micropteri
Pollution	89-002351
89-002494	Ascorbic Acid
Polychlorinated Biphenyls	89-001849
89-002494	Bacterial Diseases
Pond Culture	89-002314
89-001422	89-002483
Zeolite	Bacterial Gill Disease
89-001422	89-002483
Ictalurus furcatus	Barbels
Bioaccumulation	89-001607
89-002522	

89-001470	89-001408
89-001474	89-001411
89-001849	89-001470
89-002356	Population Studies
89-002483	89-002991
89-002545	Predator/Prey Relationships
89-002674	89-001995
DST	Protein Metabolism
89-002495	89-001733
Diets	Protein Synthesis
89-001462	89-001614
89-001849	Protozoan Diseases
Disease-free Culture	89-002351
89-002356	89-002356
89-002493	Raceway Culture
Distribution/Geographical	89-001344
89-002991	Rearing Density
Economics	89-001470
89-001424	Recirculating Systems
Endocrinology	89-001326
89-001696	Reproductive System
Ethanol	89-001606
89-001411	Tagging Lesions
Feeding Experiments	89-002674
89-001470	Tank Culture
89-001849	89-001408
Feeds	Taste Reception
89-001411	89-001607
Fingerling Production	Tetrahymena pyriformis
89-001344	89-002356
Heated Water	Thyroid Gland
89-001344	89-001733
Heavy Metals	Transportation
89-002495	89-001474
Hematology	Treatment
89-001662	89-002356
Heteropolaria colisarum	89-002483
89-002351	Two-Story Fisheries
Hormones	89-002595
89-001606	Vitellogenin
89-001733	89-001606
Ichthyobolus necator	Water Quality
89-002351	89-001411
Ichthyophthirius multifiliis	Zinc
89-002356	89-001462
Immunization	Ilurocoetes facali
89-002356	New Species
Industrial Wastes	89-002275
89-001411	Iotichthys phlegethontis
Life History/General	Endangered/Threatened Species
89-002085	89-003202
Management/Research--Reservoirs	Hybridization
89-002595	89-001903
Marking/Tagging	Istiophorus platypterus
89-002674	Angler Surveys
Metabolism	89-003135
89-001614	Catch Per Unit Effort
Mortality/Factors of	89-003135
89-002085	Management/Research--Marine
Net-Pen Culture	89-003135
89-002595	Stock Assessment
Nutrition	89-003135
89-001849	Kathetostoma canaster
Oxygenation	Distribution/Geographical

89-002262
 Morphology
 89-002262
 New Species
 89-002262
Kimberleyeleotris notata
 Distribution/Geographical
 89-002262
 Morphology
 89-002262
 New Species
 89-002262
Lates nilotica
 Eggs
 89-001694
 Endocrinology
 89-001694
 Enzymes
 89-001694
 Reproductive Cycle
 89-001694
 Steroids
 89-001694
Labrisomus
 Foods/Feeding
 89-003083
 Reef Fish Communities
 89-003083
Lactoria fornasini
 Toxins
 89-001688
Lagocephalus lunaris lunaris
 Ichthyotoxin
 89-001839
 Toxins
 89-001809
Lampetra fluviatilis
 Eyes
 89-001566
 Flow Regimes
 89-002911
 Management/Research--Rivers and
 Streams
 89-002039
 89-002911
 Nervous System
 89-001566
 Population Studies
 89-002039
 Stock Assessment
 89-002911
 Vision
 89-001566
Lampetra planeri
 Distribution/Geographical
 89-002190
Lampetra tridentata
 Dams
 89-002716
 Extinction
 89-002716
 Fish Passage
 89-002716
Larimus forficatus
 89-001584
 Feeding Experiments
 89-001471
 Feeds
 89-001471
 Food Conversion Efficiency
 89-001471
 Harvest
 89-002110
 Hormones
 89-001584
 Induced Maturation
 89-001584
 Life History/General
 89-002110
 Lymphocystis
 89-002361
 Parasites/Diseases
 89-002361
 Spawning Cycle Regulation
 89-001584
 Tank Culture
 89-001471
 Viral Diseases
 89-002361
Latimeria chalumnae
 Distribution/Geographical
 89-002048
 Habitat Selection
 89-002044
 Life History/General
 89-002044
 89-002048
 Paleontology
 89-002048
Leiostomus xanthurus
 Bioaccumulation
 89-002522
 Distribution/Factors of
 89-002896
 Distribution/Geographical
 89-002051
 Harvest
 89-002051
 Heavy Metals
 89-002522
 Larvae
 89-002896
 Larval Drift
 89-002896
 Life History/General
 89-002051
 Management/Research--Estuarine
 89-002522
 89-002533
 Management/Research--Rivers
 Streams
 89-002896
 Mercury
 89-002522
 Metabolic Rates
 89-001704
 Mortality Factors
 89-001704

89-001704	89-001946
<i>Lepidogalaxias salamandroides</i>	Coexistence
Aestivation	89-001946
89-001787	Competition
Burrowing Behavior	89-001946
89-001787	Distribution/Geographical
Osmoregulation	89-002199
89-001787	Egg Drift
<i>Lepidosteus</i>	89-002125
Foods/Feeding	Foods/Feeding
89-001937	89-002018
Interspecies Relationships	Habitat Selection
89-001937	89-001946
<i>Lepidosteus mollispinus</i>	Larval Drift
Endangered/Threatened Species	89-002125
89-002908	Learning
Flow Regimes	89-002018
89-002908	Life History/General
Life History/General	89-002125
89-002908	Musculature
Management/Research--Rivers and Streams	89-001843
89-002908	Predator/Prey Relationships
<i>Lepidosteus mollispinus pratensis</i>	89-002018
Endangered/Threatened Species	<i>Lepomis humilis</i>
89-002065	Flood Plains
Management/Research--General	89-002920
89-002065	Habitat Selection
Population Studies	89-002920
89-002065	Water Level Fluctuations
<i>Lepidoperca filamenta</i>	89-002920
Distribution/Geographical	<i>Lepomis macrochirus</i>
89-002284	Age/Growth
Morphology	89-001843
89-002284	89-002172
New Species	89-002183
89-002284	Behavior
<i>Lepidotrigla spinosa</i>	89-002538
Distribution/Geographical	Benzof(a)pyrene
89-002260	89-002540
Morphology	89-002542
89-002260	Bioassay Techniques
New Species	89-002540
89-002260	Biosorption
Taxonomy	89-002496
89-002260	Cadmium
<i>Lepisosteus platyrhincus</i>	89-002510
Endorphins	Culture/Propagation
89-001847	89-001474
Lateral Line System	Fenvalerate
89-001816	89-002496
Nervous System	Foods/Feeding
89-001816	89-002538
<i>Lepisosteus platyrhynchus</i>	Foods/Feeding/Selectivity
Pars Intermedia	89-002172
89-001847	Hardness
<i>Lepomis cyanellus</i>	89-002496
Flood Plains	Heavy Metals
89-002920	89-002510
Habitat Selection	Histology
89-002920	89-001534
Management/Research--General	Insecticides
89-002551	89-002496
Mosquito Control	Latitude
	89-002183

89-002358	Predator/Prey Relationships	89-002139	Limanda limanda
89-001984			Parasites/Diseases
89-002183		89-002354	
Salinity			Protozoan Diseases
89-002496		89-002354	
Stocking/Introductions			Trypanosoma
89-002183		89-002354	
Temperature			Lithognathus lithognathus
89-002542			Bioenergetics
Transportation		89-001654	
89-001474			Metabolism
Viral Diseases		89-001654	
89-002361			Oxygen
Zoogeography		89-001654	
89-002183			Lithognathus mormyrus
Lepomis megalotis			Bioenergetics
Coexistence		89-001654	
89-001988			Metabolism
Habitat Selection		89-001654	
89-001988			Oxygen
Interspecies Relationships		89-001654	
89-001988			Liza ramada
Parental Behavior			Culture/Propagation
89-001988		89-001337	
Leporinus friderici			Cytology
Brood Stock		89-001582	
89-001397			Digestive System
Culture/Propagation		89-001582	
89-001397			Economic Values
Leptobarbus hoevenii		89-001337	
Culture/Propagation			Lopholatilus chamaeleonticeps
89-001345			Abundance/Factors of
Hormones		89-003146	
89-001345			Burrowing Behavior
Induced Maturation		89-001953	
89-001345			Commercial Fishing
Lesuerigobius sanzoi		89-003146	
Distribution/Geographical			Habitat Selection
89-002214		89-001953	
Lethenteron lamotzenii			Harvest
Age/Growth		89-003146	
89-002213			Life History/General
Distribution/Geographical		89-003146	
89-002213			Management/Research--Marine
Leuciscus cephalus		89-003146	
Acanthocephala			Loricariidae
89-002379			Defensive Behavior
Foods/Feeding		89-001996	
89-002158			Foods/Feeding
Parasites/Diseases		89-001996	
89-002379			Predator/Prey Relationships
Pomphorhynchus laevis		89-001996	
89-002379			Lota lota
Leuciscus idus melanotus			Migration
Digestive System		89-001930	
89-001617			Movements
Endocrinology		89-001930	
89-001617			Lumpenus lampretaeformis
Peptides			Burrowing Behavior
89-001617		89-001774	
Starvation		89-001775	
89-001617			Hematology
Leuresthes tenuis		89-001774	

89-001775	Biomimicry
Metabolism	89-001619
89-001775	89-001741
Oxygen	Proteins
89-001774	89-001619
89-001775	Mallotus villosus
pH	Larval Behavior
89-001774	89-002150
Respiratory System	Life History/Growth
89-001774	89-002196
Lutjanus analis	89-002160
Cage Culture	Management/Research
89-001437	89-002105
Culture/Propagation	Mortality/Factors of
89-001437	89-002160
Lutjanus apodus	Population Studies
Ciguatera	89-002105
89-002490	Predator/Prey Relation
Dinoflagellates	89-002150
89-002490	Spawning Migration
Parasites/Diseases	89-002106
89-002490	Meda fulgida
Lutjanus griseus	Endangered/Threatened
Artificial Reefs	89-001528
89-003036	89-001999
Habitat Selection	89-002098
89-003036	Habitat Selection
Management/Research--Marine	89-001928
89-003036	89-001598
Lutjanus mahogoni	Interspecific Relationships
Ciguatera	89-001928
89-002490	Larval Cleft
Dinoflagellates	89-002098
89-002490	Microhabitat
Parasites/Diseases	89-001998
89-002490	Megapsilon apodus
Macromesistius poussou	Culture/Propagation
Commercial Fishing	89-001299
89-003066	Reproduction
Distribution/Geographical	89-001299
89-003066	Melacanthus atrodorsalis
Management/Research--Marine	Venom Gland
89-003066	89-001557
Marketing	Melanogrammus aeglefinus
89-003066	Age/Growth
Migration	89-001525
89-003066	Age/Length Composition
Macropinna microstoma	89-002729
Pigmentation	Early Development
89-001740	89-001525
Vision	Gear Selectivity
89-001740	89-002733
Makaira indica	Management/Research--Marine
Angler Surveys	89-001872
89-003135	89-002728
Catch Per Unit Effort	Nets/Netting
89-003135	89-002703
Management/Research--Marine	Nets/Trawls
89-003135	89-002703
Stock Assessment	89-002734
89-003135	Otoliths
Makaira nigricans	89-001525
Angler Surveys	Parasites/Diseases
	89-002734

89-001325	Commercial Fishing
Embryology	89-003116
89-001325	Distribution/Factors of
Laboratory Spawning	89-003116
89-001325	Distribution/Seasonal
Predator/Prey Relationships	89-003116
89-002012	Enzymes
Techniques/Toxicology	89-001689
89-001325	Management/Research--Mar
Trophic Relationships	89-003116
89-002012	Migration
Zooplankton	89-003116
89-002012	Spawning
Menidia menidia	89-001689
Culture/Propagation	Temperature
89-001325	89-003116
Embryology	Merluccius productus
89-001325	Abundance/Factors of
Laboratory Spawning	89-002236
89-001325	Distribution/Geographical
Nursery Areas	89-002236
89-002142	Microdesmus lanceolatus
Predator/Prey Relationships	Distribution/Geographical
89-002142	89-002202
Techniques/Toxicology	Microgasterias undulatus
89-001325	Age/Growth
Menidia peninsulae	89-002108
Culture/Propagation	Bioaccumulation
89-001325	89-002522
Embryology	Embryology
89-001325	89-001715
Laboratory Spawning	Endocrinology
89-001325	89-001636
Techniques/Toxicology	Exploitation Rates
89-001325	89-002108
Merlangius merlangus	Heavy Metals
Food Supply	89-002522
89-002147	Hormones
Foods/Feeding	89-001636
89-002147	Ion Transport
Gear Selectivity	89-001715
89-002703	Management/Research--Estu
Management/Research--Marine	89-002522
89-001872	Management/Research--Mar
Migration	89-002108
89-002147	Maturation
Mortality Rates	89-001636
89-002760	Mercury
Movements	89-002522
89-002147	Metabolic Rates
Nets/Netting	89-001704
89-002703	Mortality Factors
Nets/Trawls	89-001704
89-002703	Mortality Rates
89-002704	89-002108
Population Genetics	Pituitary Gland
89-001872	89-001798
Population Studies	Pollution
89-002760	89-002522
Predator/Prey Relationships	Population Studies
89-002147	89-002108
Stock Assessment	Proteins
89-001872	89-001798
Stock Identification	Reproductive System

Temperature
 89-001704
Micropterus dolomieu
 Abundance/Factors of
 89-002991
 Acidification
 89-002800
 Age/Growth
 89-001843
 89-002181
 Altitude
 89-002181
 Biological Monitoring
 89-002446
 Description
 89-002446
 Defensive Behavior
 89-001999
 Distribution/Factors of
 89-002181
 Distribution/Geographical
 89-002181
 89-002991
 Flow Regimes
 89-002922
 Gills
 89-001656
 Habitat Alterations
 89-002997
 Habitat Selection
 89-001949
 Heavy Metals
 89-002446
 Histology
 89-001534
 Instream Flow
 89-002922
 Liming
 89-002800
 Management/Research--Lakes
 89-002446
 89-002800
 Management/Research--Rivers and
 Streams
 89-002922
 Mercury
 89-002446
 Movements
 89-001949
 Musculature
 89-001534
 89-001843
 Nervous System
 89-001656
 Orientation/Homing
 89-001949
 Parental Behavior
 89-001999
 Pollution
 89-002446
 Population Studies
 89-002800
 89-002991
 89-002997

89-002997
 Population Studies
 89-002997
 Water Level Fluctuations
 89-002997
Micropterus salmoides
 Age/Growth
 89-002181
 89-002183
 Altitude
 89-002181
 Ciguatera
 89-002490
 Culture/Propagation
 89-001474
 89-002990
 Dinoflagellates
 89-002499
 Distribution/Factors of
 89-002181
 Distribution/Geographical
 89-002063
 89-002181
 Foods/Feeding
 89-001923
 Latitude
 89-002183
 Management/Research--Ponds
 89-002990
 Parasites/Diseases
 89-002490
 Population Studies
 89-002063
 Predator/Prey Relationships
 89-001923
 89-002183
 Reproduction
 89-002063
 Stocking/Introductions
 89-002183
 89-002990
 Transportation
 89-001474
 Trophic Relationships
 89-001923
 Zoogeography
 89-002183
Microspathodon dorsalis
 Foods/Feeding
 89-003065
 Management/Research--Marine
 89-003065
 Reef Fish Communities
 89-003065
Microstomus pacificus
 Age/Growth
 89-002186
 Biochemical Composition
 89-001730
 Metamorphosis
 89-001730
 Musculature
 89-001730
 Pigments

89-002668	89-003121
Morone americana	Hatchery/Wild Populations
Egg Predation	89-001400
89-002034	89-001447
Foods/Feeding	Hybridization
89-002034	89-001405
Habitat Selection	89-001425
89-002034	Ice
Life History/General	89-001405
89-002034	Larvae
Substrate Composition	89-001488
89-002034	Life History/General
Morone chrysops	89-002101
Age/Growth	Management/Research--Part
89-001661	89-003121
Cage Culture	Management/Research--Rive
89-001405	Streams
Culture/Propagation	89-001400
89-001405	89-002680
89-001425	89-002691
Hybridization	Marking/Tagging
89-001405	89-002129
89-001425	89-002680
Ice	Modeling
89-001405	89-002738
Lipid Content	Mortality Factors
89-001661	89-001425
Mortality Factors	89-002101
89-001425	Movements
Nutrition	89-002129
89-001661	Otoliths
Pond Culture	89-001571
89-001425	Parasites/Diseases
Season	89-001488
89-001405	Polychlorinated Biphenyls
Survival	89-002460
89-001425	Pond Culture
Temperature	89-001425
89-001405	Power Plants
Winter	89-001400
89-001405	Recreational Benefits
Morone saxatilis	89-003121
Abundance/Factors of	Recruitment
89-002101	89-002101
Age/Growth	Regulations/General
89-001571	89-003121
89-002101	Salinity
Biological Monitoring	89-001771
89-002460	Season
Biosorption	89-001405
89-002460	Stock Assessment
Cage Culture	89-003121
89-001405	Stocking/Introductions
Commercial Fishing	89-001447
89-003121	89-002691
Culture/Propagation	89-002738
89-001400	Supplemental Stocking
89-001405	89-002680
89-001425	Survival
89-001447	89-001425
89-001488	89-002738
Dibenzo-p-Dioxins	Swimbladder Disease
89-002460	89-001488
Dioxin	Temperature

89-001318	Spawning Cycle Regulation	89-002162	Predator/Prey Relat
89-001318		89-002162	
Mugil curema	Culture/Propagation	Myrichthys acuminatus	Distribution/Geograph
89-001429		89-002202	
Mugiliza	Culture/Propagation	Myxine glutinosa	Blood Pressure
89-001429		89-001842	
Mullidae	Fish Lists/Keys	Cortisol	89-001842
89-002246		Excretory System	89-001842
Mullus surmuletus	Abnormalities	Hormones	89-001842
89-001521		Ion Transport	89-001842
Muraenichthys	Behavior	Nannostomus anduzei	New Species
89-002162		89-002253	
Evolution	89-002162	Nannostomus beckfordi	Aquariums
Parasitic Behavior	89-002162	89-001481	Culture/Propagation
Predator/Prey Relationships	89-002162	89-001481	Reproduction
89-002162		89-001481	
Mustelus manazo	Collagen	Negaprion brevirostris	Foods/Feeding
89-001799		89-003188	Samplers/Stomach
Immune Response	89-001628	89-003188	
89-001628		Neoceratodus forsteri	Hormones
Musculature	89-001799	89-001579	Pituitary Gland
89-001799		89-001579	
Pituitary Gland	89-001628	Nesarcheilus barbatus	Acanthocephala
89-001628		89-002405	Parasites/Diseases
Saccus Vasculosus	89-001628	89-002405	Pomphorhynchus laevis
89-001628		89-002405	
Techniques/Immune Response	89-001628	Notemigonus crysoleucas	Culture/Propagation
89-001628		89-001411	Ethanol
Mycteroperca olfax	Techniques/Early Development	89-001411	Feeds
89-001632		89-001411	Industrial Wastes
Techniques/Embryology	89-001632	89-001411	Pond Culture
89-001632		89-001411	Water Quality
Mycteroperca tigris	Distribution/Geographical	89-001411	
89-002202		Notolabrus	Distribution/Geographic
89-002202		89-002286	
Myxus rhomboidalis	Brood Stock	89-002286	Fish Lists/Keys
89-001397		89-002286	
Culture/Propagation	89-001397	89-002286	New Genus
89-001397		89-002286	
Mylopharyngodon piceus	Culture/Propagation	89-002286	
89-002371		89-002286	
Parasites/Diseases	89-002371	89-002286	
89-002371		89-002286	
Viral Diseases	89-002371	89-002286	
89-002371		89-002286	
Viral Hemorrhagic Septicemia	89-002371	89-002286	
89-002371		89-002286	
Myoxocephalus thompsoni	Distribution/Geographical	89-002286	
89-002079		89-002286	

89-001640	89-001355
89-001727	Fishways
Nototheniidae	89-002891
Life History/General	Flow Regimes
89-002058	89-002923
Notropis cornutus	Foods/Feeding
Abundance/Factors of	89-003015
89-003003	Hatchery Design
Management/Research--Reservoirs	89-001376
89-003063	Hatchery/Wild Trout
Notropis lutrensis	89-001356
Foods/Feeding	hetturus leviseni
89-001937	89-002393
Habitat Selection	Management/Research--Estuar
89-001928	89-003015
Interspecies Relationships	Management/Research--General
89-001928	89-001365
89-001937	Management/Research--Rivers
Oxygen	Streams
89-001795	89-002891
Respiration	89-002923
89-001795	Migration
Temperature	89-003015
89-001795	Parasites/Diseases
Thermal Tolerance	89-002393
89-001795	Planning
Notropis urbratilis	89-001376
Coexistence	Predator/Prey Relationships
89-001988	89-003015
Habitat Selection	Production
89-001988	89-001365
Interspecies Relationships	Reservoir Release Effects
89-001988	89-002923
Parental Behavior	Site Suitability
89-001988	89-001376
Noturus furiosus	Stocking/Introductions
Abundance/Factors of	89-001356
89-002099	89-001365
Distribution/Geographical	Taxonomy
89-002099	89-002266
Life History/General	Temperature
89-002099	89-002923
Ocyurus chrysurus	Trematodes
Age/Growth	89-002393
89-001394	Oncorhynchus apache
Cage Culture	Endangered/Threatened Spec
89-001437	89-001982
Culture/Propagation	Foods/Feeding
89-001394	89-001982
89-001437	Habitat Selection
Production	89-001982
89-001394	Oncorhynchus clarki
Odontesthes bonariensis	Brood Stock
Bacterial Diseases	89-001375
89-002315	Culture/Propagation
Chromosome Studies	89-001370
89-001915	89-001375
Karyotypes	Diplostomum baeri
89-001915	89-002385
Mycobacterium	Diplostomum spathaceum
89-002315	89-002385
Parasites/Diseases	Distribution/Geographical
89-002315	89-002049
Parasites/Diseases	Flow Regimes

Life History/General	Endangered/Threatened Species
89-002049	89-002049
89-002092	89-003262
Management/Research--Rivers and Streams	Ecology
89-002929	89-001681
89-002952	Hybridization
Parasites/Diseases	89-001916
89-002385	Life History/General
Predator/Prey Relationships	89-001681
89-002257	89-002289
Spawning	Management/Research--General
89-002929	89-002560
Taxonomy	Meristic Studies
89-002549	89-001916
89-002952	pH
89-002764	89-001681
89-002345	Salinity
89-002789	89-001681
Treatments	Oncorhynchus clarki lewisi
89-002385	Competition
Variation Studies	89-001952
89-002299	Distribution/Geographical
Vision	89-002061
89-002385	Habitat Selection
Oncorhynchus clarki bouvieri	89-001952
Broad Stock	Interspecies Relationships
89-001379	89-001952
Competition	Life History/General
89-001952	89-002061
Culture/Propagation	Management/Research--General
89-001367	89-002061
89-001379	Population Studies
Distribution/Geographical	89-002064
89-002091	Oncorhynchus clarki pleuriticus
89-002094	Distribution/Geographical
Disturbances	89-002276
89-001367	Taxonomy
Drawdowns	89-002276
89-001630	Oncorhynchus clarki stonias
Habitat Selection	Culture/Propagation
89-001952	89-001364
Hatchery/Wild Trout	Endangered/Threatened Species
89-001367	89-001364
89-001379	89-002049
Interspecies Relationships	Life History/General
89-001952	89-002086
Life History/General	Management/Research--General
89-002041	89-002086
89-002094	Oncorhynchus clarki utah
Management/Research--General	Endangered/Threatened Species
89-002091	89-003202
89-002094	Management/Research--General
Management/Research--Lakes	89-002563
89-001379	89-002592
Management/Research--Reservoirs	Oncorhynchus clarki virginalis
89-001379	Abundance/Factors of
Spawning	89-002239
89-001630	Life History/General
Stocking/Introductions	89-002239
89-001367	Management/Research--General
89-001379	89-002607
Oncorhynchus clarki clarki	Oncorhynchus gorbuscha
	Abundance/Factors of

89-001492	89-002372
Egg Production	Oxygen
89-001492	89-001374
Electrophoresis	Parasites/Diseases
89-001891	89-002370
Enzymes	89-002372
89-001861	Parental Transfer
89-001881	89-002370
89-001882	Photoperiodism
89-001921	89-001986
Genetic Divergence	Phototropism
89-001861	89-001986
89-001891	Scoliosis
89-001921	89-002372
Habitat Selection	Social Behavior
89-002026	89-002001
Hybridization	Swimming Performance
89-001890	89-001977
Life History/General	Techniques/Swimming Performance
89-002026	89-001977
Management/Research--Marine	Temperature
89-003106	89-001374
Metabolism	89-001706
89-001625	Treatment
Mortality Rates	89-002372
89-003106	Triploid Fish
Nitrogen	89-001890
89-001625	Viral Diseases
Polymorphism	89-002370
89-001882	Water Quality
Population Studies	89-001374
89-003106	Oncorhynchus kisutch
Techniques/Radioactive Tracers	Abundance/Factors of
89-001625	89-002682
Triploid Fish	89-003106
89-001890	89-003107
Oncorhynchus keta	Age/Growth
Abnormalities	89-001674
89-001706	89-001858
Age/Growth	Bacterial Diseases
89-001374	89-002318
Anemia	89-002338
89-001374	Bacterial Kidney Disease
Culture/Propagation	89-002338
89-001374	Calcium
89-002370	89-001664
89-002372	Carbohydrate Metabolism
Disease-Free Culture	89-001806
89-002372	Cold-water Disease
Egg Production	89-002318
89-002370	Commercial Fishing
Enzymes	89-003106
89-001893	89-003107
Foods/Feeding	Culture/Propagation
89-002001	89-001358
Fry Production	89-001361
89-001374	89-001362
89-002372	89-001492
Hematology	89-001674
89-001706	89-001773
Hybridization	89-002347
89-001890	Cytophaga psychrophila
Incubation	89-002318
89-002370	Diets
1989-001492	

89-00218	Population Studies
89-001931	89-003106
89-002137	89-003107
89-002159	Predator/Prey Relationships
Fright Behavior	89-001931
89-001992	89-002922
Gill Diseases	89-002159
89-002347	89-002167
Gravel Mines	Proteins
89-CJ2863	89-001654
Habitat Alterations	Protozoan Diseases
89-002692	89-002347
Harvest	Rearing Density
89-003107	89-001358
Hatchery/Wild Trout	89-001773
89-001352	Regulations/General
89-001992	89-003107
Hematology	Reintroductions
89-001664	89-002692
Hormones	Reproductive System
89-001783	89-001773
89-001827	Stocking/Introduction
89-001858	89-002582
Hybridization	Stress
89-001890	89-001592
Insulin	Tagging Lesions
89-001783	89-002338
Ion Transport	Temperature
89-001654	89-002167
Learning	Thyroid Gland
89-001992	89-001858
Life History/General	Triploid Fish
89-002073	89-001890
Lipid Metabolism	Trout Stream Management
89-001806	89-002682
Liver Lesions	89-002853
89-002374	Volcanoes
Management/Research--Marine	89-002682
89-003106	Water Quality
89-003107	89-001358
Management/Research--Rivers and Streams	89-001773
89-002692	Steroids
89-002863	89-001827
Marking/Tagging	Oncorhynchus masou
89-002338	Bacterial Diseases
Metabolism	89-002337
89-001782	Bacterial Kidney Disease
89-001783	89-002337
Migration	Chum Salmon Virus
89-001670	89-002369
89-002073	Culture/Propagation
Mortality Rates	89-002370
89-003106	Diagnostic Techniques
Net-Pen Culture	89-002337
89-002347	Egg Production
Nutrition	89-002370
89-001806	Fungal Diseases
Oxygen	89-002339
89-001358	Hormones
Pancreas	89-001854
89-001783	Incubation
Paramoeba pemaquidensis	89-002370
	Infectious Hematopoietic

89-002337
 89-002339
 89-002369
 89-002376
 Parental Transfer
 89-002379
Penibacterium salmoninarum
 89-002337
 Thyroid Gland
 89-001854
 Viral Diseases
 89-002369
 89-002370
 Visceral Granuloma
 89-002339
Gnathorhynchus mykiss
 Abundance/Factors of
 89-002682
 89-002919
Acanthocephala
 89-002379
 Acidification
 89-002487
 Adrenaline
 89-001651
Aeromonas salmonicida
 89-002336
 Aflatoxicosis
 89-002340
 Age/Growth
 89-001381
 89-001520
 89-001623
 89-001682
 89-001769
 89-002940
 Amino Acids
 89-001785
 Anemia
 89-002544
 Anemia
 89-002357
 Anesthetics
 89-001686
 Anilines
 89-002485
 Anoxia
 89-001762
 Antibodies
 89-002335
 Arsenate
 89-002520
 Bacterial Diseases
 89-002318
 89-002333
 89-002334
 89-002335
 89-002336
 89-002483
 Bacterial Gill Disease
 89-002483
 Biochemical Composition
 89-001620
 Biosorption

Calcium
 89-001677
 Calcium
 89-001651
 89-001677
 89-001710
 89-001770
 Carbon Monoxide
 89-002389
 Chloramines
 89-002483
 Chloride Cells
 89-002549
 Chlorinated Hydrocarbons
 89-002521
 Cholesterol
 89-001639
 Coal Liquid
 89-001951
 Cold-water Disease
 89-002318
 Coloration
 89-001535
 Competition
 89-002683
 Condition Factors
 89-001682
 89-001769
 Corpse of *Stannius*
 89-001846
 Cortisol
 89-001597
 89-002717
Cryptobia salmositica
 89-002357
 Culture/Propagation
 89-001344
 89-001359
 89-001366
 89-001369
 89-001370
 89-001375
 89-001381
 89-001474
 89-001759
 89-002152
 89-002333
 89-002334
 89-002483
 89-002595
 89-002683
 Cytochrome
 89-001838
 Cytology
 89-002366
 Cytophaga psychrophila
 89-002318
 Dams
 89-002717
 89-002891
 Diagnostic Techniques
 89-002335
 Diets
 89-001366

SYSTEMATIC INDEX

...CONTINUED...

Oncorhynchus mykiss
 Early Development
 89-002544
 Egg Survival
 89-001710
 Eggs
 89-001753
 Electrophoresis
 89-001916
 Embryology
 89-002544
 Endocrinology
 89-001663
 89-001686
 89-001716
 89-001804
 89-001846
 Environmental Factors
 89-001951
 Enzymes
 89-001667
 89-001686
 89-001838
 Exercise
 89-001662
 89-001832
 Fecundity
 89-001720
 Feeds
 89-001366
 89-002152
 Fertilization
 89-001629
 Fin Clipping
 89-003174
 Fingerling Production
 89-001344
 Fish Lifts
 89-002717
 Fish Stocks
 89-002688
 Fishways
 89-002891
 Flow Regimes
 89-002631
 89-002923
 Food Conversion Efficiency
 89-001682
 Foods/Feeding/Selectivity
 89-002152
 Fungal Diseases
 89-002340
 Fungicides
 89-002517
 Gas Bubble Disease
 89-002389
 89-002402
 Gas Supersaturation
 89-002389
 Growth

...CONTINUED...

Oncorhynchus mykiss
 Harvest
 89-001942
 Hatchery Releases
 89-002952
 Hatchery/Wild Trout
 89-001359
 89-001370
 89-001375
 89-002688
 89-002952
 89-003174
 Hatching
 89-001718
 Hatching Time
 89-001623
 Heated Water
 89-001344
 Heavy Metals
 89-001753
 Hematology
 89-001655
 89-001686
 89-001686
 89-001804
 89-001832
 89-001848
 89-001853
 89-002549
 Herbicides
 89-002517
 Herpesvirus
 89-002362
 Homing Behavior
 89-001359
 Hormones
 89-001639
 89-001660
 89-001769
 Hybridization
 89-001916
 Hypercalcemia
 89-001677
 Immune Response
 89-002357
 Impoundment
 89-002631
 Inbreeding
 89-001884
 Incubation
 89-001718
 Induced Maturation
 89-001639
 Infectious Pancreatic Necrosis
 89-002366
 Intraspecific Relationships
 89-001623
 Ion Transport
 89-001651

Management/Research--Rivers and
 Streams
 89-002631
 89-002682
 89-002683
 89-002688
 89-002891
 89-002919
 89-002923
 89-002952
 Marking/Tagging
 89-002676
 89-003174
 Maturation
 89-001638
 89-001657
 89-001760
 89-001804
 Meristic Studies
 89-001916
 Metabolic Rates
 89-002366
 Metabolism
 89-001762
 89-001848
 Migration
 89-001670
 89-001942
 89-001951
 89-002637
 89-002999
 Modeling
 89-002631
 89-002743
 Morphometry
 89-001520
 Mortality Rates
 89-002940
 Musculature
 89-001520
 89-001769
 Myxobolus cerebralis
 89-002350
 Nervous System
 89-001520
 89-001651
 89-001656
 Nests/Nesting
 89-002114
 Net-Pen Culture
 89-002334
 89-002595
 Nitrite
 89-001848
 89-002549
 Nutrition
 89-001769
 89-001785
 Osmoregulation
 89-001760
 Oxygen
 89-001718
 89-001859
 Parasites/Diseases

89-002366
 89-002379
 89-002389
 89-002402
 89-002483
 89-002521
 Parr-Smolt Transformation
 89-001670
 Peptides
 89-001716
 Pesticides
 89-002517
 pH
 89-001770
 89-001853
 89-002487
 pH Regulation
 89-001832
 Phenols
 89-002485
 Photoperiodism
 89-001657
 89-001759
 89-002717
 Pigments
 89-001841
 Pollution
 89-002523
 Polychlorinated Biphenyls
 89-002521
 Pomphorhynchus laevis
 89-002379
 Population Studies
 89-002743
 Power Plants
 89-002631
 89-002999
 Protein Metabolism
 89-001691
 89-001769
 Proteins
 89-001672
 Protozoan Diseases
 89-002350
 89-002357
 Pulp Mill Effluents
 89-002523
 89-002543
 Reintroductions
 89-002682
 Reproduction
 89-001657
 89-001770
 89-002489
 Reproductive Cycle
 89-001759
 89-001804
 Reproductive System
 89-001837
 Reservoir Release Effect
 89-002923
 Restoration of Anadromous
 89-002683

Spawning	89-002483
89-002114	Treat Stream Habitat
Spawning Cycle Regulation	89-002682
89-001759	89-002940
Species Identification	Tumors
89-001535	89-002340
Sperm	89-002521
89-001629	Two-Story Fisheries
89-001720	89-002595
Starvation	Vaccination
89-001763	89-002333
Steroids	89-002334
89-001638	Variation Studies
89-001672	89-002289
89-001804	Vibrio anguillarum
Stocking/Introductions	89-002333
89-002682	89-002334
89-002683	89-002325
89-002688	Vibriosis
Stress	89-002333
89-002717	89-002334
Survival	89-002335
89-001623	Viral Diseases
89-002999	89-002362
Swimming Performance	89-002366
89-001802	Vitellogenin
Tank Culture	89-001759
89-001344	89-001770
Taste Reception	89-001837
89-002152	Volcanoes
Taxonomy	89-002637
89-002289	89-002682
TCO3	Whirling Disease
89-002489	89-002350
Techniques/Agricultural Wastes	Xenobiotics
89-001369	89-001655
Techniques/Amino Acids	Zinc
89-001653	89-002462
Techniques/Biochemical	Zoogeography
Composition	89-001908
89-001620	Oncorhynchus mykiss nebulosus
Techniques/Blood Volume	Foods/Feeding
89-001761	89-002138
Techniques/Chromatography	Oncorhynchus nerka
89-001620	Abundance/Factors of
Techniques/Extracellular Fluid	89-002159
Volume	Biochemical Composition
89-001761	89-001879
Techniques/Histology	Enzymes
89-001653	89-001896
Techniques/Hormones	Harvest
89-001803	89-001942
Techniques/Immune Response	89-002780
89-001653	Migration
Techniques/Nucleotides	89-001670
89-001620	89-001942
Temperature	Modeling
89-001759	89-002780
89-001802	Mortality/Factors of
89-002333	89-002159
89-002334	Parr-Smolt Transformation
89-002520	89-001670
89-002923	Population Genetics
Thermal Pollution	89-001906

89-002345
Antibiotics
89-002299
Bacterial Diseases
89-002299
89-002322
Bacterial Kidney Disease
89-002322
Branding
89-002676
Cell Culture
89-001912
Coal Liquid
89-001951
Coloration
89-001535
Commercial Fishing
89-003106
89-003107
Cortisol
89-002717
Culture/Propagation
89-001358
89-001361
89-001362
89-001378
89-001382
89-002322
89-002764
Dams
89-002717
Diets
89-001361
89-001362
89-001378
Disease-Free Culture
89-002322
Economic Values
89-003107
Endocrinology
89-001782
Environmental Factors
89-001951
Erythromycin
89-002299
89-002322
Evolution
89-001912
Fish Lifts
89-002717
Fish Passage
89-001581
Foods/Feeding
89-001931
89-002137
Harvest
89-001942
89-002764
89-003107
Hatchery/Wild Trout
89-001362
89-001378
89-002764
Herpesvirus

89-001783
Life History/General
89-002342
Light
89-002717
Management/Research--Pa
89-003106
89-003107
Management/Research--Ri
Streams
89-002042
89-002913
89-002972
Marking/Tagging
89-002676
Medication In Diets
89-002322
Metabolism
89-001782
89-001783
Microsporidium rhabdopni
89-002345
Migration
89-001670
89-001942
89-001951
89-002913
Modeling
89-002764
Mortality Rates
89-003106
Net-Pen Culture
89-001382
Nutrition
89-001378
Oxygen
89-001358
89-001581
Pancreas
89-001783
Parasites/Diseases
89-001739
89-001912
89-002299
89-002322
89-002345
89-002362
Parental Transfer
89-002299
Parr-Smolt Transformation
89-001670
89-001673
Peptides
89-001782
89-001783
Photoperiodism
89-002717
Population Studies
89-002042
89-003106
89-003107
Predator/Prey Relationship
89-001931
89-002322

89-002322	Taxonomy
Species Identification	89-001886
89-001535	<i>Opisthonema oglinum</i>
Stress	Economic Values
89-001739	89-002093
89-002717	Harvest
Supplemental Stocking	89-002093
89-002913	Life History/General
Temperature	89-002093
89-001561	<i>Opistognathus aurifrons</i>
Thermal Pollution	Distribution/Geographical
89-001951	89-002202
Trypan Blue	<i>Opistognathus longichnus</i>
89-001673	Distribution/Geographical
Treatment	89-002202
89-002322	<i>Opsanus tau</i>
Triplaid Fish	Musculature
89-001830	89-001522
Trout Stream Management	Sexual Dimorphism
89-002972	89-001522
Trout/Stream Management	Swimbladder
89-002913	89-001522
Viral Diseases	<i>Dragonichthys crameri</i>
89-002362	Abundance/Factors of
Vitamins	89-002074
89-001378	Distribution/Geographical
Water Quality	89-002074
89-001358	Population Studies
<i>Ophiocephalus striatus</i>	89-002074
Parasites/Diseases	<i>Oryzias latipes</i>
89-002358	Biosorption
Rhabdovirus	89-002525
89-002358	89-002526
Viral Diseases	Cardium
89-002358	89-002524
<i>Ophiodon elongatus</i>	89-002525
Distribution/Geographical	Copper
89-002663	89-002526
Harvest	Early Development
89-002663	89-001532
<i>Ophisternon</i>	Egg Survival
Zoogeography	89-002524
89-002222	89-002525
<i>Ophthalmolapia ventralis</i>	Eggs
Aquariums	89-001753
89-001968	89-002526
Courtship	Epidemics
89-001968	89-001532
Culture/Propagation	Gills
89-001968	89-001532
Habitat Selection	Heavy Metals
89-001968	89-001753
Spawning	89-002524
89-001968	89-002525
<i>Opisthonema</i>	89-002526
Coloration	Histology
89-001533	89-001532
Larvae	Ion Transport
89-001533	89-001753
Meristic Studies	Manganese
89-001533	89-002526
Pigmentation	Skeletal System
89-001533	89-001560

89-002809
 Management/Research--Lakes
 89-002808
 Predator/Prey Relationships
 89-002808
 Trophic Relationships
 89-002808
Osmorus mordax
 Egg Drift
 89-002057
 Larval Drift
 89-002657
 Life History/General
 89-002057
 Photoperiodism
 89-002057
 Season
 89-002057
Ostracion cubicus
 Toxins
 89-001688
Pagellus erythrinus
 Abnormalities
 89-001521
 Morphology
 89-001521
Pagotheria borchgrevinkii
 Cardio-Vascular System
 89-001845
 Hypoxia
 89-001845
 Oxygen
 89-001845
Pagrus major
 Actomyosins
 89-001755
 Enzymes
 89-001754
 89-001755
 Musculature
 89-001754
 89-001755
 Techniques/Enzymes
 89-001754
Pangasius sutchi
 Culture/Propagation
 89-001345
 Hormones
 89-001345
 Induced Maturation
 89-001345
Parablennius sanguinolentus
 Circadian Rhythms
 89-001957
 Foods/Feeding
 89-001957
Paracheirodon innesi
 Coloration
 89-001732
 Epidermis
 89-001732
Paralabrax clathratus
 Chlorine Dioxide
 89-002503

Management/Research--Mar
 89-003120
 Pigments
 89-001751
 Regulations/Size Limits
 89-003120
Paralichthys olivaceus
 Early Development
 89-002045
 89-002047
 Larval Drift
 89-002047
 Life History/General
 89-002045
 89-002047
 Nursery Areas
 89-002045
 89-002047
 Recruitment
 89-002047
 Samplers/Larval Fish
 89-002045
 Season
 89-002045
 89-002047
 Temperature
 89-002045
 89-002047
 Tides
 89-002045
 Trawls
 89-002045
Parasilurus asotus
 Enzymes
 89-001713
 Techniques/Enzymes
 89-001713
Pardachirus marmoratus
 Defensive Behavior
 89-001828
 Toxins
 89-001828
Parophrys vetulus
 Distribution/Geographical
 89-002663
 Fecundity
 89-001693
 Gonosomatic Index
 89-001693
 Habitat Selection
 89-001927
 Harvest
 89-002663
 Mortality Rates
 89-001693
 Reproduction
 89-001693
 89-002505
 Segregation
 89-001927
 Substrate Composition
 89-001927
 Xenobiotics
 89-002505

89-002178	Egg Composition
Bacterial Diseases	89-001742
89-002313	Enzymes
Bioenergetics	89-001742
89-001700	Foods/Feeding
Economic Values	89-002156
89-002803	Gas Supersaturation
Egg Predation	89-002453
89-002034	Gear Selectivity
Enzymes	89-002709
89-001599	Gills
Eutrophication	89-001636
89-001700	Histology
Fins	89-001742
89-001556	Hydroelectric Development
Fish Stocks	89-002453
89-002561	Management/Research--Lakes
Foods/Feeding	89-002454
89-002034	Management/Research--Reservoirs
Foods/Feeding/Selectivity	89-003187
89-002172	Mortality Factors
89-002178	89-002453
Granulomatous Peritonitis	Nervous System
89-002313	89-001656
Granulomatous Syndrome	Nets/Gill Nets
89-002313	89-002709
Gynogenesis	Pollution
89-001599	89-002454
Habitat Selection	Population Studies
89-002034	89-003187
Histology	Power Plants
89-001534	89-002453
Life History/General	Predator/Prey Relationship
89-002034	89-002136
Limning	89-002144
89-002800	Pulp Mill Effluents
89-002914	89-002539
Management/Research--Lakes	Reservoir Release Effects
89-002800	89-002453
89-002803	Stock Assessment
Management/Research--Rivers and Streams	89-003187
89-002914	Thermal Pollution
Musculature	89-002453
89-001534	Trophic Relationships
89-001843	89-002136
Mycobacterium chelonae	89-002156
89-002313	Percichthyidae
Parasites/Diseases	Aquarists
89-002313	89-001477
Population Studies	Culture/Propagation
89-002800	89-001477
Recreational Benefits	Life History/General
89-002803	89-001477
Skeletal System	Perciformes
89-001556	Reproduction
Skin Lesions	89-001834
89-002313	Steroids
Spawning Habitat Restoration	89-001834
89-002914	Percina caprodes
Stocking/Introductions	Swimbladder
89-002561	89-001622
Substrate Composition	Percina maculata
89-002800	Swimbladder
	89-001622

89-001555
 Respiratory System
 89-001555
 Variation Studies
 89-001555
Periophthalmus chrysospilos
 Air Breathing
 89-001555
 Gills
 89-001555
 Histology
 89-001555
 Respiratory System
 89-001555
 Variation Studies
 89-001555
Petromyzon marinus
 Bile
 89-001734
 Enzymes
 89-001780
 Hematology
 89-001734
 Hormones
 89-001817
 Migration
 89-001817
 Musculature
 89-001780
 Spawning
 89-001817
Pharyngochromis
 Chromosome Studies
 89-001918
Phoxinus eos
 Diploidization
 89-001874
 Distribution/Geographical
 89-002211
 Hybridization
 89-001874
 Triploid Fish
 89-001874
Phoxinus neogaeus
 Diploidization
 89-001874
 Distribution/Geographical
 89-002211
 Hybridization
 89-001874
 Triploid Fish
 89-001874
Phoxinus phoxinus
 Age/Growth
 89-002733
 Bioenergetics
 89-002733
 Biosorption
 89-002488
 89-002548
 Cadmium
 89-002548
 Calcium
 89-002548

Population Studies
 89-002037
Physiculus thersites
 Distribution/Geographical
 89-002278
 Light Organs
 89-002278
 Morphology
 89-002278
 New Species
 89-002278
Piaractus mesopotamicus
 Culture/Propagation
 89-001285
 Hormones
 89-001285
 Induced Maturation
 89-001285
Pictilabus
 Distribution/Geographical
 89-002286
 Fish Lists/Keys
 89-002286
Pimephales notatus
 Abundance/Factors of
 89-003003
 Management/Research--Reservoir
 89-003003
Pimephales promelas
 Alcohols
 89-002529
 Aldehydes
 89-002529
 Aliphatic Hydrocarbons
 89-002529
 Ammonium
 89-002507
 Aromatic Hydrocarbons
 89-002529
 Bacterial Diseases
 89-002482
 89-002483
 Bacterial Gill Disease
 89-002482
 89-002483
 Behavior
 89-001969
 Benzene
 89-002529
 Benzo(a)pyrene
 89-002540
 Bioaccumulation
 89-002507
 Bioassay Techniques
 89-002519
 89-002540
 Chemical Reclamation
 89-002988
 Chemoreception
 89-001969
 Chloramines
 89-002482
 89-002483
 Chlorinated Benzenes

Esters
 89-002529
 Fish Control/Removal
 89-002958
 Halogenated Hydrocarbons
 89-002529
 Heavy Metals
 89-001901
 89-001902
 Immunization
 89-001901
 Ketones
 89-002529
 Life History/General
 89-001903
 89-002779
 Maternal Care
 89-002779
 Metal Detoxication
 89-002702
 Migration
 89-001951
 Nitrites
 89-002529
 Nutrient Control
 89-002908
 Organics
 89-002482
 Parasites/Diseases
 89-002482
 89-002483
 Phenols
 89-002529
 Pollution
 89-001909
 Proteins
 89-002502
 Recirculatory System
 89-002482
 Spawning
 89-001926
 Techniques/Movements
 89-001959
 Temperature
 89-001901
 Territorial Behavior
 89-002700
 Thermal Pollution
 89-001951
 Treatment
 89-002482
 89-002483
 Trophic Relationships
 89-002958
 Water Quality
 89-002482
 Wetlands
 89-002779
 Xenobiotics
 89-002502
 Zinc
 89-001909
 89-002502

89-001397
Plagionotus argentissimus
 Endangered/Threatened Species
 89-002908
 89-003200
 Flow Regimes
 89-002938
 Foods/Feeding
 89-001937
 Interspecies Relationships
 89-001937
 Life History/General
 89-002908
 Management/Research--General
 89-002917
 Management/Research--Rivers
 Streams
 89-002908
 89-002917
 Stocking/Introductions
 89-002917
Platichthys flesus
 Angler Surveys
 89-003095
 Catch Per Unit Effort
 89-003095
 Harvest
 89-003095
 Management/Research--Marine
 89-003095
 Recreational Benefits
 89-003095
Platichthys stellatus
 Trace Metals
 89-002547
Platycephalus aurimaculatus
 Distribution/Geographical
 89-002267
 Morphology
 89-002267
 New Species
 89-002267
Plecoglossus altivelis
 Bacterial Diseases
 89-002317
 89-002327
 89-002330
 Competition
 89-002014
 Culture/Propagation
 89-002014
 89-002317
 89-002327
 Disease-Free Culture
 89-002317
 89-002327
 Feeding Experiments
 89-002014
 Hatchery/Wild Populations
 89-002014
 Immune Response
 89-002327
 Larvae
 89-002014

Vibrio anguillarum	Parasites/Diseases
89-002217	89-002306
89-002327	Peptides
89-002330	89-001617
Vibriosis	Polybrominated Benzenes
89-002330	89-002499
Pleuronectes platessa	Polybrominated Biphenyls
Nervous System	89-002499
89-001658	Polychlorinated Biphenyls
Pleuronectidae	89-002499
Commercial Fishing	Predator/Prey Relationship
89-002706	89-001938
Gear Efficiency	Starvation
89-002706	89-001617
Management/Research--Marine	Poeciliopsis
89-002706	Hybridization
Nets/Netting	89-001894
89-002706	Mate Selection
Nets/Trammel Nets	89-001963
89-002706	Polyploidy
Pleuronectiformes	89-001894
Population Studies	Social Behavior
89-002620	89-001963
Plotosus lineatus	Unisex Populations
Toxins	89-001894
89-001808	Poeciliopsis occidentalis
Poecilia	Modeling
Mate Selection	89-002767
89-001963	Predator/Prey Relationship
Social Behavior	89-002767
89-001963	Poeciliopsis turrobarensis
Zoogeography	Distribution/Geographical
89-002222	89-002229
Poecilia dominicensis	Pollachius virens
Distribution/Geographical	Management/Research--Marine
89-002230	89-001872
Zoogeography	Population Genetics
89-002230	89-001872
Poecilia latipinna	Stock Assessment
Early Development	89-001872
89-001532	Stock Identification
Epidermis	89-001872
89-001532	Polyodon spathula
Genetic Divergence	Abundance/Factors of
89-001917	89-002237
Gills	89-002719
89-001532	Dams
Histology	89-002719
89-001532	Impingement/Entrainment
Nervous System	89-002719
89-001633	Mortality
Serotonin	89-002237
89-001633	Stocking/Introductions
Poecilia mexicana	89-002237
Aquariums	Polyprion americanus
89-001486	Life History/General
Culture/Propagation	89-002122
89-001486	Reproduction
Reproduction	89-002122
89-001486	Reproductive System
Poecilia reticulata	89-002122
Age/Growth	Sex Ratios
89-001567	89-002122
Biosorption	Pomacanthus arcuatus

Age/Growth
 89-002151
 Foods/Feeding
 89-002151
Pomacentrus ananias
 Distribution/Geographical
 89-002242
 Morphology
 89-002242
 New Species
 89-002242
Pomacentrus saltatrix
 Distribution/Geographical
 89-002076
 Temperature Values
 89-002059
 Foods/Feeding
 89-002142
 Harvest
 89-002076
 Life History/General
 89-002076
 Management/Research--Estuaries
 89-002142
 Management/Research--Marine
 89-003059
 Nursery Areas
 89-002142
 Placing
 89-003059
 Predation/Prey Relationships
 89-002142
 Recreational Benefits
 89-003059
 Recruitment
 89-001765
 Season
 89-001765
 Spawning
 89-001765
Pomatoschistus microps
 Distribution/Geographical
 89-002231
 Salinity
 89-002231
 Temperature
 89-002231
Pomatoschistus minutus
 Culture
 89-001742
 Distribution/Geographical
 89-002231
 Eyes
 89-001742
 Salinity
 89-002231
 Temperature
 89-002231
Pomoxis annularis
 Abundance/Factors of
 89-002238
 Habitat Evaluation
 89-002980
 Habitat Suitability Index Models
 89-002980
 Riptarian Habitat
 89-002980
 Sterk Assessment
 89-002228
Priacanthus hamrui
 Biochemical Composition
 89-001750
 Fish as Food
 89-001750
 Proteins
 89-001750
Priapella compressa
 Aquariums
 89-001486
 Culture/Propagation
 89-001486
 Reproduction
 89-001486
Priapella intermedia
 Aquariums
 89-001486
 Culture/Propagation
 89-001486
 Reproduction
 89-001486
Prionace glauca
 Amino Acids
 89-001855
 Endocrinology
 89-001855
 Food Conversion Efficiency
 89-002155
 Foods/Feeding
 89-002155
 Growth Hormone
 89-001855
Protopterus aethiopicus
 Air Breathing
 89-001671
 Respiration
 89-001671
 Respiratory System
 89-001671
Pseudobalistes naufragium
 Foods/Feeding
 89-003065
 Management/Research--Marine
 89-003065
 Reef Fish Communities
 89-003065
Pseudocyttus maculatus
 Age/Growth
 89-002179
 Otoliths
 89-002179
Pseudolabrus
 Distribution/Geographical
 89-002286
 Fish Lists/Keys
 89-002286
Pseudolabrus celidotus
 Lactate Levels
 89-001643

Life History/General	Life History/General
89-002025	89-002053
Management/Research--Marine	Management/Research--General
89-002025	89-002582
Migration	89-002917
89-002025	Management/Research--Rivers
Nursery Areas	Streets
89-002025	89-002917
Seamounts	Reintroductions
89-002025	89-002053
Spawning Migration	Sport Fishing
89-002025	89-002582
Zoogeography	Stocking/Introductions
89-002025	89-002353
<i>Pseudoplatystoma fasciatum</i>	89-002917
Brood Stock	<i>Ptychocheilus oregonensis</i>
89-001397	Abundance/Factors of
Culture/Propagation	89-002991
89-001397	Distribution/Geographical
<i>Pseudopleuronectes americanus</i>	89-002991
Caditum	Population Studies
89-001600	89-002991
Distribution/Geographical	Predator/Prey Relationships
89-002029	89-001995
Harvest	89-002000
89-002029	89-002797
Heavy Metals	<i>Pungitius pungitius</i>
89-001600	Aggressive Behavior
Ion Transport	89-001943
89-001600	Early Development
Kidneys	89-002077
89-001600	Life History/General
Life History/General	89-002077
89-002029	Oxygen
<i>Pseudotolithus senegalensis</i>	89-002077
Catch Per Unit Effort	Salinity
89-003052	89-002077
Commercial Fishing	Temperature
89-003052	89-001943
Exploitation Rates	89-002077
89-003052	Water Level Fluctuations
Management/Research--Marine	89-002077
89-003052	<i>Raja erinacea</i>
Population Studies	Cardio-Vascular System
89-003052	89-001601
Stock Assessment	Catecholamines
89-003052	89-001601
<i>Pseudotolithus typus</i>	Hypothalamic-Hypophysial Sy
Catch Per Unit Effort	89-001669
89-003052	Nervous System
Commercial Fishing	89-001601
89-003052	Steroids
Exploitation Rates	89-001669
89-003052	<i>Raja lineata</i>
Management/Research--Marine	<i>Dictyocotyle coeliaca</i>
89-003052	89-002377
Population Studies	Monoecious
89-003052	89-002377
Stock Assessment	Parasites/Diseases
89-003052	89-002377
<i>Pterois canescens</i>	Trematodes
Early Development	89-002377
89-001836	<i>Raja radiata</i>
Nervous System	Cardio-Vascular System

Rastrelliger kanagurta
Storage Effects
89-003165
Taste and Odor Problems
89-003165
Reinhardtius hippoglossoides
Distribution/Geographical
89-002323
Harvest
89-002623
Life History/General
89-002023

Retropinna retropinna
Distribution/Geographical
89-002250
Management/Research--Rivers and
Streams
89-002250

Rhabdania oremla
Distribution/Geographical
89-002241
Morphology
89-002241
New Species
89-002241

Rhabdosargus halibet
Biosorption
89-002491
Detoxification
89-002491
Polychlorinated Biphenyls
89-002491

Rhinoceros republicae
Toxins
89-001698

Rhinichthys cataractae
Histology
89-001514
Morphology
89-001514

Rhinichthys osculus
Distribution/Geographical
89-002219
Food/Feeding
89-001937
Hybridization
89-001903
Interspecies Relationships
89-001937
Life History/General
89-002219

Rhinogobius brunneus
Coloration
89-001547
Egg Size
89-001547
Evolution
89-001547
Taxonomy
89-001547

Rhizoprionodon terraenovae
Embryology
89-001553

Miscellaneous
89-001843

Rita rita
Detergents
89-002535
89-002536

Enzymes
89-002535
89-002536

Epidermis
89-002535

Gills
89-002536

Rivulus
Zoogeography
89-002222

Rivulus marmoratus
Floods
89-002089

Life History/General
89-002089

Management/Research--Gene
89-002089

Mangroves
89-002089

Rivulus roleffii
Distribution/Geographical
89-002230

Zoogeography
89-002230

Rogadius patriciae
Distribution/Geographical
89-002267

Morphology
89-002267

New Species
89-002267

Rutilus rubilio
Enzymes
89-001864

Hybridization
89-001864

Isozymes
89-001864

Rutilus rutilus
Age/Growth
89-002075

Competition
89-001878

Endocrinology
89-001609

89-001610

Eutrophication
89-002109

Food/Feeding
89-002158

89-002165

89-002166

Gonads
89-001609

Gynogenesis
89-001610

Hormones

Inter-species Relationships	Age/Growth
89-001878	89-001381
Larval Identification	89-001384
89-002277	89-001724
Life History/General	Bacterial Diseases
89-001878	89-002311
89-002075	89-002336
Management/Research--Lakes	Behavior
89-002109	89-001919
Maturat'ion	Brain
89-001609	89-001567
89-001610	Brood Stock
Pituitary Gland	89-001355
89-001609	Cage Culture
89-001610	89-002398
Population Studies	Calcium
89-002109	89-001710
Reproductive Cycle	Cardio-Vascular System
89-001609	89-001746
89-001610	89-001747
Spawning	89-002939
89-001609	Chloride Cells
89-001610	89-001731
Salmo	Circadian Rhythms
Amino Acids	89-001975
89-001392	Coloration
Commercial Fishing	89-001801
89-002661	Commercial Fishing
Culture/Propagation	89-003394
89-001356	Competition
89-001392	89-002683
89-002348	Culture/Propagation
Diets	89-001355
89-001392	89-001360
Disease-Free Culture	89-001363
89-002348	89-001386
Economics	89-001381
89-002661	89-001384
Feeds	89-001398
89-001392	89-001391
Fish Stocks	89-001441
89-001356	89-001453
Food Conversion Efficiency	89-001463
89-001392	89-001466
Harvest	89-002398
89-002661	89-003143
Hatchery/Wild Trout	Dams
89-001356	89-002653
Hydroelectric Developments	Diadromy
89-002628	89-001919
Parasites/Diseases	Diets
89-002348	89-001391
Pond Culture	89-001466
89-002348	Disease-Free Culture
Power Plants	89-002398
89-002628	Distribution/Geographical
Proteins	89-002090
89-001392	89-002653
Protozoan Diseases	89-002930
89-002348	Early Development
Stocking/Introductions	89-001658
89-001356	89-001731
Taxonomy	Economic Values
89-002266	89-001388

Excretory System
 89-001830
 Exploitation Rates
 89-003094
 Feeding Experiments
 89-001463
 Feeds
 89-001456
 Fins
 89-001949
 Fish Locations
 89-007777
 Flow Barriers
 89-001993
 89-002803
 89-002923
 Foods/Feeding
 89-001403
 89-001406
 89-001993
 89-002010
 89-002011
 Fertilant Distributor
 89-001998
 Fry Production
 89-001360
 89-001463
 89-002406
 Fry Stocking
 89-001360
 Gasette Montage
 89-001993
 Habitat Alterations
 89-002633
 89-002877
 Habitat Evaluation
 89-001472
 Habitat Selection
 89-001996
 89-001998
 Handling Mortality
 89-001443
 Harvest
 89-001360
 Hetero Glycose
 89-002999
 Homones
 89-001993
 89-001997
 89-001996
 Hybridization
 89-002993
 89-002999
 Hydroelectric Developments
 89-002633
 89-002977
 Invasive Research
 89-002633
 Imprinting
 89-001746
 89-002747
 89-002999
 Infectious Reactions/Infect

Lining
 89-002393
 89-002458
 Mammal Predation
 89-002235
 Management/Research--G
 89-002458
 Management/Research--L
 89-002909
 Management/Research--M
 89-001381
 89-002223
 89-003094
 89-003143
 Management/Research--R
 Streams
 89-001355
 89-001360
 89-001975
 89-002683
 89-002687
 89-002845
 89-002948
 89-002950
 89-002852
 89-002857
 89-002870
 89-002872
 89-002877
 89-002893
 89-002892
 89-002893
 89-002905
 89-002911
 89-002930
 89-002939
 89-002954
 89-002956
 89-002960
 89-002971
 Marking/Tagging
 89-002223
 Maturation
 89-001697
 89-003130
 Metabolism
 89-001861
 Microhabitat
 89-001936
 Migration
 89-001697
 89-001975
 89-002011
 89-002223
 Mortality/Factors of
 89-002235
 Movements
 89-002223
 Nests/Nesting
 89-002114
 Nutrition
 89-001466
 Nutritional Diseases
 89-002308

89-001746
 89-001747
 89-002939
 Orientation/Homing
 89-002011
 Osmoregulation
 89-001829
 89-001830
 Otoliths
 89-001551
 Overwintering
 89-001936
 Oxygen
 89-001384
 Ozone
 89-001384
 Parasites/Diseases
 89-002305
 89-002311
 89-002336
 89-002363
 89-002398
 Parr-Smolt Transformation
 89-001658
 89-001724
 89-001731
 89-001747
 Photography
 89-003172
 Photoperiodism
 89-002011
 Pigments
 89-001801
 Pituitary Gland
 89-001587
 Polymorphism
 89-001909
 Pond Culture
 89-001363
 Population Genetics
 89-001885
 Population Studies
 89-002633
 89-002653
 89-002845
 89-002857
 89-002883
 89-002892
 89-002930
 89-002960
 89-003172
 Predator/Prey Relationships
 89-001958
 89-002235
 Protein Synthesis
 89-001767
 Proteins
 89-001909
 Raceway Culture
 89-001380
 Rearing Density
 89-001380
 89-001384
 Recticulating Systems

89-002978
 89-002877
 89-002971
 Salinity
 89-001722
 89-001731
 89-001829
 89-001830
 89-001844
 Season
 89-001796
 89-001958
 89-002311
 Selenium
 89-002398
 Sexual Dimorphism
 89-001559
 Spawning
 89-002114
 Spawning Channels
 89-002848
 Species Identification
 89-001551
 Sterility
 89-001796
 Steroids
 89-001844
 Stock Assessment
 89-002223
 89-002737
 89-002850
 89-002911
 89-003094
 89-003130
 89-003172
 Stocking/Introductions
 89-001360
 89-001363
 89-002683
 89-002687
 89-002852
 89-002905
 89-002956
 Stress
 89-001801
 Survival
 89-001441
 Techniques/Chromatography
 89-001585
 Techniques/Endocrinology
 89-001585
 Temperature
 89-001453
 89-001463
 89-001767
 89-003130
 Thyroid Gland
 89-001747
 Thyroxine
 89-001724
 Transportation
 89-001441
 Treatment
 89-002398

89-002633
 Zooogeography
 89-001893
 Salmonella
 Abnormalities
 89-001766
 Acidification
 89-002418
 89-002789
 Aeromonas salmonicida
 89-002336
 Aeromonas
 89-002776
 89-001906
 89-002041
 89-002808
 Bacterial Diseases
 89-002336
 Brood Stock
 89-001375
 Carbohydrates
 89-002424
 Coloration
 89-001584
 Culture/Propagation
 89-001375
 89-001466
 89-001150
 89-002684
 Diets
 89-001466
 Distribution/Influence of
 89-002791
 Foods
 89-001466
 Flow Regimes
 89-002704
 89-002911
 Foods/Fooding
 89-001466
 89-001982
 89-002041
 89-002704
 89-001150
 Fry Production
 89-001466
 Habitat Alterations
 89-002633
 Habitat Evaluation
 89-002744
 Habitat Selection
 89-001982
 89-002904
 Hatchery/Wild Trout
 89-001375
 89-002150
 Hatching
 89-002867
 Heavy Metals
 89-002484
 Hermaphroditism
 89-001766
 Hybridization
 89-001150

89-002458
 89-002789
 Mammal Predation
 89-002235
 Management Decisions
 89-002743
 Management/Research--Genetics
 89-002458
 89-002743
 Management/Research--Lakes
 89-002150
 89-002684
 89-002789
 Management/Research--River
 Streams
 89-002838
 89-002889
 89-002892
 89-002934
 89-002911
 89-002960
 Mercury
 89-002484
 Migration
 89-002067
 89-002191
 89-002889
 Modeling
 89-002743
 Mortality/Factors of
 89-002235
 Natural Selection
 89-001876
 Nests/Nesting
 89-002114
 Nutrition
 89-001466
 Otoliths
 89-001551
 Parasites/Diseases
 89-002041
 89-002336
 Phosphate
 89-002484
 Photography
 89-002967
 Polymorphism
 89-001909
 Pond Culture
 89-002684
 Population Genetics
 89-001904
 Population Studies
 89-002633
 89-002743
 89-002892
 89-002960
 Predator/Prey Relationship
 89-001948
 89-002235
 Proteins
 89-001909
 Pyridinethione
 89-002484

Stock Assessment	89-002911	Flow Regimes	89-002654
Stocking/Introductions	89-002150		89-002853
	89-002684		89-002867
Survival	89-002150		89-002897
	89-002684	Genetic Storage	89-002916
Variation Studies	89-001551		89-001355
	89-001551	Growth hormone	89-001719
Water Level Fluctuations	89-002960	Habitat Alterations	89-002897
	89-002960		89-002916
Watershed Management	89-002458	Habitat Evaluation	89-002924
Weirs	89-002633	Habitat Selection	89-001952
	89-002838		89-002867
	89-002838	Hatchery/Wild Population	89-001322
Xanthates	89-002484		89-001322
Yield	89-002838	Hatchery/Wild Trout	89-001385
Zoogeography	89-001863		89-001387
	89-001904		89-001805
Salmo trutta fario			89-002890
Biosorption	89-002514	Hormones	89-001719
	89-002514	Hydroelectric Development	89-002627
Heavy Metals	89-002514		89-002654
Salmonidae			89-002897
Abundance/Factors of	89-002867		89-002916
	89-002878	Interspecies Relationship	89-001952
Age/Growth	89-001719		89-001372
Bacterial Diseases	89-001383	Invertebrate Forage	89-001372
	89-001383		89-001877
Barriers	89-002853	Lactate Dehydrogenase	89-001877
	89-002853	Management/Research--River	
Bibliographies	89-003196	Streams	89-001355
	89-003196		89-002686
Brood Stock	89-001355		89-002853
	89-001355		89-002867
Competition	89-001952		89-002878
	89-001952		89-002890
Culture/Propagation	89-001322		89-002897
	89-001355		89-002916
	89-001371		89-002924
	89-001372		89-002970
	89-001373	Migration	89-001805
	89-001383		89-001805
	89-001385	Mitigation	89-002627
	89-001387		89-002627
	89-001496	Mortality Factors	89-001383
Disease-Free Culture	89-001383		89-002654
	89-001383	Nests/Nesting	89-002117
Distribution/Geographical	89-002953		89-001373
	89-002953	Ocean Ranching	89-001373
Economics	89-001371	Parasites/Diseases	
	89-001371		
Egg Production	89-001355		
	89-001355		

89-001371
 Remote Sensing
 89-002924
 Restoration of Anadromous Runs
 89-002953
 Spawning
 89-002117
 Spawning Substrates
 89-002117
 Stock Assessment
 89-002686
 89-003168
 Stocking/Introductions
 89-001665
 Substrate Composition
 89-002117
 Supplemental Stocking
 89-002686
 Techniques/Procs.
 89-001496
 Treatment
 89-002402
 Salvellinus alpinus
 Age/Growth
 89-001389
 89-002177
 Amino Acids
 89-001389
 Caudals
 89-002385
 Ceratichthys
 89-002793
 Culture/Propagation
 89-001389
 89-002793
 Disease Susceptibility
 89-002466
 Endocrinology
 89-001160
 Food/Feeding
 89-002159
 Genetic Strains
 89-002386
 Habitat Selection
 89-002177
 Harvest
 89-002793
 Hatchery/Wild Trout
 89-001499
 Hormones
 89-001660
 Lake Ranching
 89-002793
 Management/Research--Lakes
 89-002793
 Hematodes
 89-002386
 Orientation/Hybridity
 89-002793
 Parasites/Diseases
 89-002386
 Polymorphism
 89-002386
 Predators/Prey Relationships

Acclimation
 89-002467
 89-002823
 Aeromonas salmonicida
 89-002336
 Age/Growth
 89-001393
 Androgenesis
 89-001898
 Bacterial Diseases
 89-002336
 Brood Stock
 89-001375
 Calcium
 89-001710
 Coloration
 89-001535
 Culture/Propagation
 89-001375
 89-001393
 Diploidization
 89-001890
 Egg Survival
 89-001710
 Electrophoresis
 89-001890
 Enzymes
 89-001599
 89-001890
 Fleas
 89-002629
 Gynogenesis
 89-001599
 Habitat Evaluation
 89-002743
 Hatchery/Wild Trout
 89-001375
 Hybridization
 89-001890
 Immune Response
 89-002363
 Inbreeding
 89-001890
 Infectious Hematopoietic
 Necrosis
 89-002363
 Iszymes
 89-001890
 Liming
 89-002823
 Management Decisions
 89-002743
 Management/Research--General
 89-002743
 Management/Research--Lakes
 89-002823
 Mitigation
 89-002823
 Modeling
 89-002743
 Mortality Factors
 89-002629
 Parasites/Diseases
 89-002336

Stress
 89-001393
 Triploid Fish
 89-001880
 Viral Diseases
 89-002363
 Water Level Fluctuations
 89-002629
Salvelinus leucomaenis
 Diploidization
 89-001880
 Electrophoresis
 89-001880
 Enzymes
 89-001880
 Hybridization
 89-001880
 Isozymes
 89-001880
 Triploid Fish
 89-001880
Salvelinus malma
 Body Form
 89-001570
 Foods/Feeding
 89-002159
 Predator/Prey Relationships
 89-002159
 Variation Studies
 89-001570
 Zoogeography
 89-001570
Salvelinus namaycush
 Acidification
 89-002423
 89-002823
 Biological Monitoring
 89-002446
 Biosorption
 89-002446
 Brood Stock
 89-001368
 89-001375
 Culture/Propagation
 89-001368
 89-001375
 89-001377
 DNA
 89-001368
 Exercise
 89-001596
 Fish Stocks
 89-001377
 Hatchery/Wild Trout
 89-001375

Nutrition
 89-001596
 Oxygen
 89-002123
 Pollution
 89-002446
 Reintroductions
 89-001377
 Sedimentation
 89-002123
 Spawning
 89-002123
 Spawning Habitat Restoration
 89-002423
 Spawning Substrates
 89-002123
 Substrate Composition
 89-002123
 Swimming Performance
 89-001596
Salvelinus taranetzi
 Body Form
 89-001570
 Variation Studies
 89-001570
 Zoogeography
 89-001570
Sander lucioperca
 Gills
 89-001656
 Nervous System
 89-001656
Sarda chiliensis
 Thermoregulation
 89-001650
Sardina pilchardus
 Commercial Fishing
 89-003066
 Distribution/Factors of
 89-002192
 Distribution/Geographical
 89-003066
 Management/Research--Marine
 89-003066
 Marketing
 89-003066
 Migration
 89-003066
 Wind
 89-002192
Sardinella aurita
 Distribution/Factors of
 89-002192
 Wind
 89-002192
Sardinella longiceps
 Storage Effects
 89-003165
 Taste and Odor Problems
 89-003165
Sardinella maderensis
 Distribution/Factors of
 89-002192

89-002775	Jaws	89-001536
Acoustical Methods	Mouth Parts	89-001536
89-002774	89-001536	
89-003170	Scarus iserti	
Age/Growth	Intraspecific Relationships	
89-002171	89-001934	
Bionomics	Management/Research-Marine	
89-002774	89-001934	
Distribution/Geographical	Reef Fish Communities	
89-002776	89-001934	
Ecological	Shoaling Behavior	
89-003170	89-001934	
89-001505	Social Behavior	
Exploitation Rates	89-001934	
89-002779	Territorial Behavior	
89-002779	89-001934	
Genetics	Scarus prasiognathus	
89-002777	Coloration	
Geographical Distribution	89-001524	
89-001598	Scarus tricolor	
Life History/General	Coloration	
89-002779	89-001524	
Management/Research-Marine	Schroederichthys chilensis	
89-002777	Parasites/Diseases	
89-002778	89-002353	
Parasitology	Protozoan Diseases	
89-002748	89-002353	
Parasites	Trypanosoma humboldti	
89-002774	89-002353	
Population Studies	Trypanosoma	
89-002748	89-002353	
89-002779	Sciaenops ocellatus	
Reproduction	Bacterial Diseases	
89-001595	89-002328	
Reproduction	Cage Culture	
89-001595	89-001437	
Reproduction/Reproduction	Calcium	
89-002748	89-001458	
89-002779	Cryopreservation	
Scorpaenopsis capensis	89-002534	
Distribution/Geographical	Culture/Propagation	
89-002052	89-001437	
Life History/General	89-001446	
89-002052	89-001458	
Scorpaenopsis	Dimethyl Sulfoxide	
Predator/Prey Relationships	89-002534	
89-002762	Early Development	
Scorpaenopsis pygmaea	89-002062	
Scorpaenopsis	Egg Survival	
89-001878	89-002534	
Scorpaenopsis	Ethylene Glycol	
89-002744	89-002534	
Dipterom. scorpaenif	Glycerol	
89-002744	89-002534	
Feeds/Feeding	Hurricanes	
89-002748	89-002104	
89-002765	Larvae	
89-002766	89-002062	
6111 Parasites	Life History/General	
89-002744	89-002062	
Hybridization	Magnesium	
89-001878	89-001458	
Hybridization/Feeding	Metabolism	

89-002534	Stocking/Introductions	Sex Ratios	89-002040
89-001446		Spawning	89-002040
Sucrose		Stock Assessment	89-001888
89-002534		Stock Identification	89-001888
Toxins		Techniques/Early Development	89-001632
89-002328		Techniques/Erbryology	89-001632
Vibrio anguillarum		Techniques/Metabolic Rates	89-001684
89-002328		Variation Studies	89-001889
Water Quality		Scomberomorus brasiliensis	
89-001458		Fisheries	89-002735
Year Class Strength		Modeling	89-002735
89-002104		Yield-per-Recruit	89-002735
Scomber japonicus		Scomberomorus cavalla	
Abundance/Factors of		Abundance/Factors of	89-003144
89-002236		89-003144	
89-002773		Angler Surveys	89-003056
Acoustical Methods		89-003144	
89-003170		89-003145	
Actomyosins		Catch Per Unit Effort	89-003144
89-001755		Charter Boats	89-003144
Biomass		Commercial Fishing	89-002195
89-002773		Distribution/Geographical	89-002195
Distribution/Geographical		Distribution/Seasonal	89-003056
89-002236		Eyes	89-003101
Echo Scunder		Fisheries	89-002735
89-003170		Length-Weight Relationships	89-003145
Enzymes		Management/Research--Marine	89-003056
89-001754		89-003144	
89-001755		89-003145	
Harvest		Marking/Tagging	89-003056
89-002657		Migration	89-003056
Management/Research--Marine		Modeling	89-002735
89-002657		Mortality Factors	89-002195
Modeling		Movements	89-003056
89-002773		Recreational Benefits	89-003056
Musculature			
89-001754			
89-001755			
Techniques/Enzymes			
89-001754			
Thermoregulation			
89-001650			
Scomber scombrus			
Age/Growth			
89-002040			
Commercial Fishing			
89-003066			
Distribution/Geographical			
89-003066			
Early Development			
89-001684			
Electrophoresis			
89-001888			
Enzymes			
89-001889			
Gene Polymorphism			
89-001889			
Life History/General			
89-002040			
Management/Research--Marine			
89-001888			
89-003066			
Marketing			

89-003108	Pituitary Gland
Angler Surveys	89-001628
89-003109	Saccus Vasculosus
Catch Per Unit Effort	89-001628
89-003138	Techniques/Taxone Response
Charter Boats	89-001628
89-003138	Sebastes
Commercial Fishing	Distribution/Vertical
89-002195	89-002131
Distribution/Geographical	Fish Lists/Keys
89-002195	89-002270
Management/Research--Marine	Habitat Selection
89-003108	89-001976
Mortality Factors	Movements
89-002195	89-001976
Stock Assessment	Taxonomy
89-003108	89-002270
Scorpaenopsis sterna	Upwelling
Thermoregulation	89-002131
89-001653	Sebastes caurinus
Scorpaenidae	Fecundity
Jurisdiction	89-001693
89-003084	Gonosomatic Index
Law Enforcement	89-001693
89-003084	Mortality Rates
Management/Research--Marine	89-001693
89-003084	Reproduction
Scopelogadus	89-001693
Pigmentation	Sebastes flavidus
89-001740	Harvest
Vision	89-002662
89-001740	Population Studies
Scophthalmus maximus	89-002662
Age/Growth	Stock Assessment
89-001386	89-002662
89-001457	Sebastes jordanii
Anthelmintics	Foods/Feeding
89-002399	89-001932
Bothrocaraulus scriptus	Trophic Relationships
89-002399	89-001932
Culture/Propagation	Sebastes marinus
89-001386	Cage Culture
89-001457	89-001475
Diets	Culture/Propagation
89-001386	89-001475
89-001457	89-001476
Parasites/Diseases	Disease-Free Culture
89-002399	89-001475
Recirculating Systems	Temperature
89-001386	89-001475
Survival	Transportation
89-001457	89-001476
Treatment	Sebastes
89-002399	Fish Lists/Keys
Trematodes	89-002270
89-002399	Taxonomy
Scyllorhynchus canicula	89-002270
Cardio-Vascular System	Semotilus atromaculatus
89-001743	Abundance/Factors of
Catecholamines	89-003003
89-001743	Management/Research--Reser
Enzymes	89-003003
89-001743	Seriola quinqueradiata
89-001743	Bacterial Diseases

89-002320	7. Aquaculture Research - Fish
89-002326	89-002021
Disease-Free Culture	<i>Sparisoma atomarium</i>
89-002320	Distribution/Geographical
Immune Response	89-002202
89-002319	<i>Sparus aurata</i>
Immunization	Culture/Propagation
89-002320	89-001436
Parasites/Diseases	89-001443
89-002319	Diets
89-002320	89-001443
89-002326	Distribution/Geographical
<i>Pasteurella piscicida</i>	89-002198
89-002320	Egg Quality
Phagocytosis	89-001436
89-002319	Incubation
Pseudotuberculosis	89-001436
89-002320	Incubators
<i>Streptococcus</i>	89-001436
89-002319	Mortality Factors
Techniques/Immune Response	89-001436
89-002319	Nutrition
<i>Vibrio damsela</i>	89-001443
89-002326	Plankton Populations
<i>Serranochromis</i>	89-001443
Chromosome Studies	Pond Culture
89-001918	89-001443
<i>Serranus annularis</i>	<i>Spathodus marlieri</i>
Distribution/Geographical	Brooding Behavior
89-002202	89-001970
<i>Setiplinna paxtoni</i>	Parental Behavior
New Species	89-001970
89-002298	<i>Sphyraena barracuda</i>
<i>Siganus</i>	Biochemical Composition
<i>Ceratomyxa</i>	89-001750
89-002343	<i>Ciguatera</i>
<i>Nosema ceratomyxae</i>	89-001835
89-002343	89-002490
Parasites/Diseases	Dinoflagellates
89-002343	89-002490
Protozoan Diseases	Fish as Food
89-002343	89-001750
<i>Siganus argenteus</i>	Parasites/Diseases
<i>Acanthocephala</i>	89-002490
89-002384	Proteins
Parasites/Diseases	89-001750
89-002384	Toxins
<i>Sclerocollum rubimaris</i>	89-001835
89-002384	<i>Sphyraena jello</i>
<i>Siganus rivulatus</i>	<i>Ciguatera</i>
<i>Acanthocephala</i>	89-001721
89-002384	Toxins
Parasites/Diseases	89-001721
89-002384	<i>Sphyrna lewini</i>
<i>Sclerocollum rubimaris</i>	Oxygen
89-002384	89-001705
<i>Solea vulgaris</i>	Reproduction
Acoustical Methods	89-001626
89-001971	Respiration
Cardio-Vascular System	89-001705
89-001823	<i>Sphyrna tudes</i>
Endocrinology	Life History/General
89-001823	89-002030
Metabolic Rates	<i>Spirinchus thaleichthys</i>

Heat Exchangers	Management/Research--Mar
89-001972	89-002154
Life History/General	Reef Fish Communities
89-002111	89-002154
Power Plants	Trophic Relationships
89-001972	89-002154
Recreation	Stellaria longifolia
89-002111	Plaid Levels
Reproduction	89-001897
89-001972	Stellaria longipes
89-001972	Plaid Levels
Squalus squalus phyllorhynchus	89-001897
Enzymes	Stenotomus chrysops
89-001972	Management/Research--Mar
Polysaccharides	89-002664
89-001897	Population Studies
Squaliformes	89-002664
Aquariums	Regulations/Size Limits
89-001440	89-002664
Culture/Propagation	Stizostedion canadense
89-001440	Fish Stocks
Fish Control/Research	89-002561
89-001440	Stocking/Introductions
89-001440	89-002561
Genetic Diversity	Stizostedion lucioferca
89-001440	Acoustical Methods
Life History/General	89-003187
89-002009	Egg Composition
89-002009	89-001742
Management/Research--Marine	Enzymes
89-002009	89-001742
Encephalomy	Eutrophication
89-001440	89-002690
Net/Fish	Gear Selectivity
89-002690	89-002709
Shark Protection	Histology
89-001440	89-001742
Skeletal System	Management/Research--Gene
89-001440	89-002690
Swimming Performance	Management/Research--Rese
89-001440	89-002681
Techniques/Oxygen	89-003187
89-001440	Nets/Gill Nets
Variation Studies	89-002709
89-001440	Population Studies
Squalus acanthias	89-003187
Feeding	Predator Introductions
89-001440	89-002681
Commercial Index	89-002690
89-001440	Predator/Prey Relationships
Mortality Rates	89-002681
89-001440	Stock Assessment
Reproduction	89-003187
89-001440	Stocking/Introductions
Squidula elongata	89-002681
Collagen	89-002690
89-001440	Trophic Relationships
Musculature	89-002681
89-001440	Stizostedion vitreum
Stenotomus naefi	Age/Growth
Distribution/Geographical	89-001744
89-002243	Culture/Propagation
	89-001395

89-002893
 Egg Production
 89-001493
 Egg Survival
 89-001744
 Eggs
 89-001695
 Feeding Experiments
 89-001395
 Feeds
 89-001395
 Fertilization
 89-001493
 Fish Stocks
 89-002561
 Foods/Feeding
 89-001744
 Incubators
 89-001395
 Larvae
 89-001395
 Management/Research--Lakes
 89-002803
 Modeling
 89-002753
 Population Studies
 89-002753
 Rearing Density
 89-001395
 Recreational Benefits
 89-002803
 Stocking/Introductions
 89-002561
 Swimbladder
 89-001395
 Tank Culture
 89-001395
 Techniques/Embryology
 89-001695
 Techniques/Gene Transfer
 89-001695
 Transportation
 89-001474
 Stizostedion vitreum vitreum
 Abundance/Factors of
 89-002991
 Culture/Propagation
 89-001390
 Distribution/Geographical
 89-002991
 Electrophoresis
 89-001906
 Fry Stocking
 89-001906
 Genetics
 89-001906
 Hatchery/Wild Populations
 89-001390
 Population Studies
 89-002100
 89-002991
 Predator/Prey Relationships
 89-001995

Strophurichthys robustus
 Ioxins
 89-001688
 Sufflamen verres
 Foods/Feeding
 89-003065
 Management/Research--Marine
 89-003065
 Reef Fish Communities
 89-003065
 Symphodus ocellatus
 Maturation
 89-001598
 Reproductive System
 89-001598
 Symphurus unispilus
 Distribution/Geographical
 89-002202
 Synanceja verrucosa
 Ichthyotoxin
 89-001810
 Pharmacology
 89-001810
 Takifugu pardalis
 Ichthyotoxin
 89-001757
 Takifugu pardalis
 Toxins
 89-001757
 Takifugu poecilonotus
 Ichthyotoxin
 89-001757
 89-001758
 Toxins
 89-001757
 89-001758
 Takifugu radiatus
 Ichthyotoxin
 89-001758
 Toxins
 89-001758
 Takifugu vermicularis
 Ichthyotoxin
 89-001758
 Toxins
 89-001758
 Tanganicodus irsacae
 Brooding Behavior
 89-001970
 Parental Behavior
 89-001970
 Tetradodon steindachneri
 Fins
 89-001543
 Histology
 89-001543
 Musculature
 89-001543
 Swimming Performance
 89-001543
 Variation Studies
 89-001543
 Tetraodon audeax
 Diet

89-003135	Stock Assessment	89-003091	Metabolic Rates
89-003135		89-001692	Oxygen
Thalasseleotris	New Genus	89-001692	Swimming Performance
89-002263	Taxonomy	89-001692	Thermoregulation
89-002263		89-001650	
Thalasseleotris adela	Distribution/Geographical	Thunnus albacares	Abundance/Factors of
89-002263		89-002660	Catch Per Unit Effort
Morphology	New Species	89-002660	Commercial Fishing
89-002263		89-002660	Exploitation Rates
Reproductive System	Taxonomy	89-003091	Fish Aggregation Devices
89-002263		89-002699	Fish as Food
Thalassoma duperoy	History	89-002702	89-003166
89-001756	Reproductive System	89-002702	Food Technology
89-001756		89-002702	Handbooks
Sex Reversal	Steroids	89-002702	Handlines
89-001756		89-002702	Harvesting Methods
Theraponichthys	Fish as Food	89-002702	Harvest
89-003161	Food Habits/Utility	89-002660	89-002699
89-003161	Food/Livelihood	89-002715	89-003091
89-003161	Interspecies Relationships	Longlines	Management/Research--Marine
89-002153	Life History/General	89-002715	89-003091
89-002153		89-002699	Nets/Purse Seines
89-002699	Predator/Prey Relationships	89-002699	Taste and Odor Problems
89-002153	Storage Effects	89-001632	Techniques/Early Development
89-003161	Temperature	89-001632	Techniques/Embryology
89-003161		89-001632	Thermoregulation
89-002153	Trophic Relationships	89-001650	
89-002153		Thunnus atlanticus	Exploitation Rates
Thryssa nanus	New Species	89-003091	Harvest
89-002208		89-003091	Management/Research--Marine
Thunnus alalunga	Commercial Fishing	89-003091	
89-003054	Harvest	89-003054	Bibliographies
89-003054	Management/Research--Marine	89-003054	Commercial Fishing
89-003054	Maximum Sustainable Yield	89-002658	Computer Applications
89-003054		89-002658	

Thymallus thymallus	89-001473
Parasites/Diseases	Economic Values
89-002364	89-001337
Viral Diseases	Electrical Guide
89-002364	89-001487
Viral Hemorrhagic Septicemia	Exotic Species
89-002364	89-002069
Thyrsites atun	Feeds
Marking/Tagging	89-001472
89-002671	89-001473
Polymorphism	Fund Conversion E
89-002671	89-001472
Stock Composition	Growth Hormone
89-002671	89-001763
Stock Identification	Harvest
89-002671	89-002069
Tiaroga cobitis	Hybridization
Abundance/Factors of	89-001472
89-002221	89-001473
Distribution/Geographical	89-001900
89-002221	Interspecies Rela
Endangered/Threatened Species	89-002069
89-001928	Larvae
89-002098	89-001487
89-002221	Pond Culture
Habitat Selection	89-001427
89-001928	Population Studie
Interspecies Relationships	89-002069
89-001928	Predator/Prey Rel
Larval Drift	89-002012
89-002098	Solar Heating
Tilapia	89-001289
Chromosome Studies	Tank Culture
89-001918	89-001413
Cryopreservation	89-001487
89-003185	Techniques/Water C
Culture/Propagation	89-001487
89-001412	Temperature
Distribution/Vertical	89-001472
89-002119	Trophic Relationsh
Habitat Selection	89-002012
89-002119	Water Quality
Recirculating Systems	89-001427
89-001412	Zooplankton
Salinity	89-002012
89-002119	Tilapia galilaea
Spawning	Age/Growth
89-002119	89-001900
Sperm Preservation	Brood Stock
89-003185	89-001900
Tilapia aurea	Culture/Propagation
Aeration	89-001420
89-001413	89-001900
Age/Growth	Hapas
89-001900	89-001420
Algae Culture	Hybridization
89-001289	89-001420
Biochemical Composition	89-001900
89-001472	Net-Pen Culture
Bienergetics	89-001420
89-001763	Tilapia hornorum
Brood Stock	Culture/Propagation
89-001900	89-001418
Competition	

Culture/Propagation	89-001900	89-001454
Hybridization	89-001900	89-001418
	89-001900	89-001420
Tilapia melanotheron	89-001900	89-001423
Age/Growth	89-001900	89-001472
	89-002163	89-001473
Food Conversion Efficiency	89-002163	89-001900
	89-002163	DOT
Feeds/Feeding	89-002163	89-002545
	89-002163	Diets
Tilapia mossambica	89-001900	89-001473
Age/Growth	89-001900	Economic Values
	89-001900	89-001337
Broad Stock	89-001900	Economics
	89-001900	89-001401
Chloride Cells	89-002466	Feeds
	89-002466	89-001472
Coloration	89-001887	89-001473
Commercial Fishing	89-003007	Fertilization/Soil and Water
	89-003007	89-001404
Cortisol	89-001605	Fingerling Production
	89-001605	89-001401
Culture/Propagation	89-001900	Food Conversion Efficiency
	89-001900	89-001423
Endocrinology	89-001707	89-001472
	89-001707	Formalin
Exploitation Rates	89-003007	89-002493
	89-003007	Furanace
Envalemate	89-002530	89-002493
	89-002530	Gill Necrosis
Gill Necrosis	89-002406	89-002493
	89-002406	Hapas
Gills	89-002406	89-001420
	89-002406	Heavy Metals
Harvest	89-003007	89-002408
	89-003007	Hybridization
Hemones	89-001613	89-001420
	89-001613	89-001472
Hybridization	89-001887	89-001473
	89-001887	89-001887
	89-001900	89-001900
Laboratory Ecosystems	89-002545	89-001900
	89-002545	Laboratory Ecosystems
Management/Research-Reservoirs	89-003007	89-002545
	89-003007	Magnesium
Nets/Gill Nets	89-003007	89-001641
	89-003007	89-001642
Osmoregulation	89-001605	Malachite Green
	89-001605	89-002493
	89-001707	Marketing
Parasites/Diseases	89-002406	89-001401
	89-002406	Mercuric Chloride
Pesticides	89-002530	89-002408
	89-002530	Net-Pen Culture
Reproductive System	89-001794	89-001420
	89-001794	Nutrition
Storage Effects	89-003165	89-001641
	89-003165	Parasites/Diseases
Taste and Odor Problems	89-003165	89-002493
	89-003165	Pollution
Thyroid Gland	89-001613	89-002408
	89-001613	Polyculture
Tilapia tilapia	89-001900	89-001418
	89-001900	Pond Culture
	89-001900	89-001404

89-001472
 Temperature
 89-001472
 Unisexual Populations
 89-001418
 Water Quality
 89-001423
 Zinc Sulphate
 89-002408
Tilapia spilurum
 Age/Growth
 89-001900
 Brood Stock
 89-001900
 Culture/Propagation
 89-001900
 Hybridization
 89-001900
Tilapia zillii
 Modeling
 89-002009
 Temperature Selection
 89-002009
 Thermal Tolerance
 89-002009
Torpedo
 Cytology
 89-001573
 Electric Organs
 89-001573
 Electrorceptors
 89-001573
Trachelyopterichthys anduzei
 New Species
 89-002255
Trachinotus falcatus
 Cage Culture
 89-001437
 Culture/Propagation
 89-001437
Trachinotus goodii
 Cage Culture
 89-001437
 Culture/Propagation
 89-001437
Trachinus vipera
 Predator/Prey Relationships
 89-002140
Trachurus murphyi
 Accoustical Methods
 89-003170
 Echo Sounder
 89-003170
Trachurus symmetricus
 Abundance/Factors of
 89-002236
 Distribution/Geographical
 89-002236
 Harvest
 89-002657
 Management/Research--Marine
 89-002657
Trachurus trachurus
 Commercial Fishing

Ichthyofauna
 Predator/Prey Relationships
 89-002162
Trigloporus strigabundus
 Aquariums
 89-001479
 Culture/Propagation
 89-001479
 Early Development
 89-001479
 Embryology
 89-001479
 Reproduction
 89-001479
Tripterygiidae
 Foods/Feeding
 89-003083
 Reef Fish Communities
 89-003083
Trisopterus luscus
 Commercial Fishing
 89-003066
 Distribution/Geographical
 89-003066
 Management/Research--Marine
 89-003066
 Migration
 89-003066
Trisopterus minutus
 Parasites/Diseases
 89-002354
 Protozoan Diseases
 89-002354
Trypanosoma
 89-002354
Trisopterus minutus capelanus
 Abnormalities
 89-001521
 Morphology
 89-001521
Trygonoptera ovalis
 Distribution/Geographical
 89-002272
 Morphology
 89-002272
 New Species
 89-002272
Trygonoptera personata
 Distribution/Geographical
 89-002272
 Morphology
 89-002272
 New Species
 89-002272
Trypauchen
 Anoxia
 89-001548
 Burrowing Behavior
 89-001548
 Cardio-Vascular System
 89-001548
 Histology
 89-001548

Morphology
 89-002272
 New Species
 89-002272
Oreophagus hallerti
 Mate Selection
 89-001989
Oreophagus noronhai
 Distribution/Geographical
 89-002272
 Morphology
 89-002272
 New Species
 89-002272
Oreophagus wendlandensis
 Distribution/Geographical
 89-002272
 Morphology
 89-002272
 New Species
 89-002272
Valencia
 Taxonomy
 89-002252
Valencia tozanoi
 New Species
 89-002252
 Taxonomy
 89-002252
Vincentia badilla
 Distribution/Geographical
 89-002241
 Morphology
 89-002241
 New Species
 89-002241
Vincentia macracauda
 Distribution/Geographical
 89-002241
 Morphology
 89-002241
 New Species
 89-002241
Xanthichthys ringens
 Distribution/Geographical
 89-002207
Xenobrycon polyantistrus
 New Species
 89-002296
Xiphias gladius
 Exploitation Rates
 89-003046
 Exploratory Fishing
 89-003046
 Harvest
 89-003046
 Management/Research--Marine
 89-003046
Xiphinotus clesonciae
 Aquariums
 89-001486
 Culture/Propagation
 89-001486

89-001532
Epidermis
 89-001532
 Gills
 89-001532
 Histology
 89-001532
 Mate Selection
 89-001926
Xiphophorus maculatus
 Reproductive System
 89-001527
Xiphophorus nigrensis
 Age/Growth
 89-001703
 Growth Hormone
 89-001703
Xiphophorus variatus
 Genetic Divergence
 89-001604
 Habitat Selection
 89-001604
 Metabolic Rates
 89-001604
 Oxygen
 89-001604
Xyrauchen texanus
 Abundance/Factors of
 89-002217
 89-002228
 89-002860
 Age/Growth
 89-001332
 89-002060
 Culture/Propagation
 89-001332
 Distribution/Geographical
 89-002217
 89-002228
 Fertilization
 89-001332
 Foods/Feeding
 89-002670
 Life History/General
 89-002060
 89-002070
 Management/Research--General
 89-002580
 Management/Research--Rivers
 Streams
 89-002860
 89-002973
 Mortality Factors
 89-002070
 Pond Culture
 89-001332
 Reproduction
 89-002060
 Starvation
 89-002070
 Survival
 89-001332
Ypsiscarus ovifrons
 Toxins

New Species

89-002260

Taxonomy

89-002260

Zoarcidae

Head

89-001538

Skeletal System

89-001538

Superintendent of Documents
U.S. Government Printing Office
Washington, DC 20402

U.S. Federal Agencies in wildlife-related fields and individual agencies who exchange domestic or foreign publications may receive free subscription to *Fisheries Review* by writing to:

Office of Information Transfer
Editorial Section — *Fisheries Review*
U.S. Fish and Wildlife Service
1025 Pennock Place
Fort Collins, Colorado 80524

CHANGE OF ADDRESS:

If SFA is the first entry on the first line of your address label, your new address and your former address exactly as it appears on your mailing label to:

The Government Printing Office
Superintendent of Documents
Washington, DC 20402

If a 12 character code appears as the first line of the label, send new address and your former address exactly as it appears on mailing label to:

Office of Information Transfer
Editorial Section — *Fisheries Review*
U.S. Fish and Wildlife Service
1025 Pennock Place
Fort Collins, Colorado 80524